1:Stanford U. S-4, 5 1956 AF12 North China
~~AF12~~ AF 12

243 The sudden jump in the amount of
248 acreage planted in cotton in North China was
433 probably caused by the adjustment of a
436 favorable parity price between cotton and
grain and the improvement of unit area yield. The effect of the changes in the parity prices was reflected very sensitively by changes in cotton acreage. The prices which were quoted in grains in various crop regions are shown in the following table:

1:Stanford U, S-4, 5 1956 AF12 North China
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Table 10. The Ratio of Cotton Prices to Grains*
(in weight-units of grain to one unit of cotton lint, 7/8" grade)

Region	1950	1951	1952	1953	1954	1955
Wheat Region	7.0	8.0	7.5-8.5	6.25-7.5	6.75-8.00	6.75-8.00
Millet Region	8.0	8.5	8.0-9.5	6.75-8.0	7.50-8.25	7.50-8.25
Rice Region	6.5	8.5	8.0-9.0	6.75-8.0	7.25-8.25	7.25-8.25

* Newspaper Reading Handbook, Hankow, 1950, p. 574. Ching-chi Chou-pao [Economic Weekly], Shanghai, May 28, 1953, p. 21; New China News Agency, March 3, 1954.

1;Stanford U. S-4, 5 1956 AF12 North China
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438 China General Merchandise Company and the
655 China Native Products Company have established branches even in rural areas.[37] The volume of trade of state-owned companies has increased since 1950 - nearly 300 per cent by 1952, although the total volume of trade throughout China may not have increased correspondingly. Regional trade of state-owned companies in North China probably increased at about the same rate.[38]

By the end of 1954, the number of state-owned trading companies in China as a whole had increased approximately 45 per cent over the number controlled by the state in the previous year.[39]

435 The general level of commodity prices was unchanged during 1954 as a result of the rationing of grain and other staples. In eight major cities, including Peking and

37. Yuan-li Wu, An Economic Survey of Communist China, New York, Bookman Associates, 1956, p. 380.

38. People's China, Peking, Jan. 16, 1954, p. 5.

39. Current Background, Hong Kong, U.S. Consulate General, Sept. 29, 1955, p. 8.

1:Stanford U. S-4, 5 1956 AF12 North China
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435 Tientsin in North China, the index of both wholesale and retail prices of staples in 1954 was 100.4 per cent of the 1953 figures.[40] The total volume of trade in 1957 will be 133.2 per cent over that of 1952, according to the schedule for the first Five-Year Plan, as reported by Communist Vice Premier Li Fu-chun.[41]

B. The Co-operative Trading Companies

474 Supply and marketing co-operatives in Communist China are organizations formed by the peasants on a "voluntary basis," under the direction of the government. Capital is made up of shares held by the members. Co-operatives supply member-investors with farm implements, fertilizers, and a great number of other commodities both for production and consumption purposes, and the co-operatives market agricultural produce and the products of local industry. State trading companies often sign advance contracts with co-operatives and supply them certain commodities at fixed, low prices. According to the most

40. Ibid.

41. Kung-shang Chieh [Industry and Commerce] Peking, August 10, 1955.

2: Gamble S-5 (1926-1933) 1954 AF12 North China AF12

361 only five villages had an average of more than 4.0 mu per family. In 57.8 per cent of the villages the average residence area was less than two mu per family.

342 A study of the residence area of 357 families living in two villages gave detailed figures of relatively crowded conditions that would be typical of the more crowded 25 per cent of the villages in the 1st District. The average residence area was 0.78 mu, about 70 x 80 feet. More than 30 per cent of the families had less than half a mu, 60 x 60 feet. Only four families had as much as 2.5 mu. The largest home place was 10 mu. (See Table 11.)

435 The estimates of the average value of the land inside the villages, as given by the elders of the 453 villages, ranged from under $100 per mu to $1,000 and over. In 28.8 per cent of the villages the average value was under $200 per mu. In 18 per cent it was given as $400 or more per mu. There were only three villages with an estimated value of $1,000 or more per mu. The median value was between $250 and $299 per mu.

342 The size of the houses, counting all the rooms used for the family living quarters and for farm purposes, ranged from one to 60 chien for the 5,255 families and from one to 34 chien for the 515 families. A chien, the space between two roof trusses, generally varied from 10 x 10 to 12 x 12 feet. The number of chien usually corresponds closely with the number of rooms, but is not always the same, for it is possible to have a half chien room or a two or three chien room. In our study rooms and chien are assumed to be equal.

The average number of rooms per family was 6.2 for the 5,255 families and 6.8 for the 515 families. For the renting families, the averages were 2.9 and 2.7 rooms, while for those who borrowed or were given the use of their homes, the averages were 1.8 and 2.0. The average number of persons per chien was 1.1 and 1.0. (See Table 13.)

Figure 12 shows that the largest number of families had three rooms, then in order five, six, and four rooms. These four groups included 58.8 per cent of the 5,255 families and 52.5 per cent of the 515 families.

According to one of our investigators a three room house consisted of the family bedroom at one end of the house, a room at the other end which was storeroom, barn, and granary combined, and a middle room with a built-in stove, which served as kitchen and living room. At night chickens, a pig, and even a donkey were kept in the middle room lest they be stolen. The door of the house usually opened into the middle

2: Gamble S-5 (1926-1933)1954 AF12 North China AF12

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TABLE 12. AVERAGE VALUE OF LAND IN VILLAGES

	Villages	*Per Cent*		*Villages*	*Per Cent*
Under $100	16	3.5	350–399	22	4.9
100–149	50	11.0	400–499	42	9.3
150–199	65	14.3	500–599	30	6.6
200–249	85	18.8	600 and over	9	2.0
250–299	54	11.9	Total	453	100.0
300–349	80	17.7			

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TABLE 13. ROOMS PER FAMILY (percentages)

Rooms	*5,255 Families*	*515 Families*
1–3	30.7	27.2
4–6	35.3	33.8
7–9	17.5	18.8
10–12	8.8	9.7
13–15	3.4	4.8
16–18	2.1	3.1
19–21	1.1	1.6
22–24	0.3	0.6
25 and over	0.8	0.4
	100.0	100.0
Average rooms	6.2	6.8
Persons per room	1.1	1.0

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per mu to decrease when the size of the farm increased beyond 40 mu, but it was not regular nor was the amount large. 434 241

The very small differences in the per mu averages for the three ownership groups and the relatively close agreement of the averages for the different sized farm groups seem to indicate that, on the average, the reports on the 400 farms have been reasonably complete and accurate.

Farm Expenses

The cost of farm operation, including the estimated value of the family and animal labor used on the farm, as well as the amounts spent for hired labor, rent, fertilizer, fodder, seed, taxes, implements, and house repair, totaled $63,359.20, an average of $158.40 per farm, $5.15 per mu. This was 42.4 per cent of the reported farm income. (See Table 27.) 435

The owner group reported the largest average expense, $166.10 per farm, and the tenants the lowest, $108.85. However, it was just the reverse for the expense per mu. That was $4.70 for the owners, $6.05 for the part-owners, and $7.65 for the tenants. The differences were largely the result of the rent paid by the tenants and part-owners. If we equalize the amounts by adding the rent value of the land owned by the owners and part-owners and the average hsien taxes on the rented land, the average cost of operation would be $8.45 per mu for the owners, $8.55 for the part-owners, and $7.75 for the tenants. If, on the other hand, we deduct rent and taxes from the different groups, the owner and part-owner costs were $4.60 and $4.70 per mu and the tenants' $3.90 per mu.

For the different sized farm groups the per mu operating cost varied from $4.00 to $5.45 for the owners, from $4.95 to $6.50 for the part-owners, and from $6.25 to $9.90 for the tenants. The lowest amount was usually in the 1–10 mu groups, the largest in the 11–20 or the 21–30 mu groups.

The value of the family and animal labor has been estimated and included as a farm expense. If these non-cash items are omitted, the money spent for the farm operation averaged only $59.00 per farm per year, or $1.90 per mu. Again, because of the rent item, the tenants had the largest average cash cost, $63.90. The part-owners' average was the smallest, $51.00. The owners spent $12.00 per farm more than the part-

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TABLE 20. CAPITAL PER FARM
(percentages)

	Owners	*Part-owners*	*Tenants*	*Total*
$ 500 and under	6.2	13.3	100	13.5
501–1,000	14.3	31.1		19.2
1,001–1,500	12.3	17.1		13.2
1,501–2,000	11.9	13.3		11.8
2,001–2,500	7.4	10.4		8.0
2,501–3,000	7.0	7.5		6.8
3,001–4,000	11.9	4.5		8.8
4,001–5,000	10.6	1.4		7.0
5,001–7,500	10.6	1.4		7.0
7,501–10,000	1.2			0.7
Over 10,000	6.6			4.0
	100.0	100.0	100	100.0

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TABLE 21. LAND VALUE

	Area (mu)	*Per Cent*	*Total Value*	*Per Cent*	*Per Mu*
Under $40 per mu	1,295	10.5	$ 35,190	4.0	$27.20
$40–$79	4,972	40.2	300,650	33.8	60.50
$80 and over	6,110	49.3	553,170	62.2	90.50
	12,377	100.0	$889,010	100.0	$71.80

TABLE 22. VALUE OF FARM HOUSES AND IMPLEMENTS

Size of Farm (mu)	*Houses*		*Implements*		*Animals*	
	Per Farm	*Per Mu*	*Per Farm*	*Per Mu*	*Per Farm*	*Per Mu*
1–10	$ 100	$14.50	$ 9.00	$1.30	$ 6.10	$0.88
11–20	110	7.25	19.00	1.25	27.22	1.80
21–30	205	8.00	35.75	1.40	39.50	1.55
31–40	255	7.35	52.95	1.55	48.01	1.40
41–50	345	7.80	65.85	1.50	69.15	1.55
51–100	620	9.70	74.85	1.15	111.42	1.75
Over 100	1,200	9.75	119.20	.95	238.45	1.95
Average	280	9.05	39.15	1.25	50.40	1.65
Owners		9.75		1.28		1.71
Part-owners		7.55		1.24		1.45
Tenants		7.65		1.02		1.49

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TABLE 23. FARM EQUIPMENT PRICES, 1931

Bag, grain	$ 1.00– 1.50	Mill, grain, flat stones	$13.00– 14.00
Basket	.20– .80	——, grain, stone roller	15.00– 20.00
Bellows	2.00– 5.00	Peanut sifter	8.00– 9.00
Broom	.10– .30	——, rent per day	.40
Cart	80.00–90.00	Persian wheel	80.00–100.00
Cotton batting machine	40.00–50.00	Plow	3.50– 5.00
Cotton gin	30.00	Pole, carrying	.70– 2.70
Drill, stone	.70	Rake, bamboo	.60– .70
Flail	4.00– 5.00	Rope winder	.60– .70
Flour sifter, large	1.30– 1.40	Shovel, fertilizer	.50– 1.00
——, small	.70– .80	——, wooden	.30– .60
Fork, digging	.30– 1.00	Sickle	.10 and .40– .50
——, wooden	.50– .80	Spinning wheel	.50– .60
Harrow	3.00	Straw cutter knife	2.00
Hoe	1.50	Wheelbarrow, small	6.00– 7.00
Loom, metal frame	30.00	——, large	14.00– 15.00
——, wooden frame	7.00– 8.00	Whip	.50– 1.00
Measure, grain, sheng	.10	Windlass, irrigation, with ropes and baskets	4.00– 5.00
——, grain, tou	.60– .70	Winnowing machine	15.00

TABLE 24. FARM ANIMALS

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	Farms	*Per Cent*	*Animals*
Cows	86	21.5	76
Horses	37	9.3	36⅓
Mules	92	23.0	109½
Donkeys	148	37.0	135⅔
Draft animals	334[1]	83.5	–
Pigs	323	80.8	536
Chickens	335	83.8	1,474
Ducks	13	3.3	25
Geese	3	0.8	5
Sheep	8	2.0	26
Rabbits	6	1.5	49

[1] Families with fractional draft animals—56.
Families with more than one draft animal—29.

2: Gamble S-5 (1926-1933) 1954. AF12 North China AF12

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TABLE 25. FARM PRODUCTS

	Per Cent Crop Mu[1]	Per Cent Crop Area	Amount Produced	Average Value per Mu	Per Cent Sold
Millet	30.3	36.8	$32,240	$ 7.05	6
——, glutinous	2.2	2.7	1,485	4.45	3
——, panicled	1.7	2.0	1,055	4.15	–
Wheat	9.9	12.1	10,630	9.10	42
Kaoliang	7.9	9.6	5,600	4.70	3
Corn	3.5	4.2	4,530	8.65	8
Buckwheat	4.5	5.5	3,225	4.75	15
Barley	2.0	2.4	1,475	5.00	1
Black beans	6.5	7.9	6,080	6.25	3
Green beans	2.8	3.6	1,325	2.95	15
Yellow beans	2.0	2.4	1,270	4.35	18
White beans	0.5	0.6	200	2.95	–
Sweet potatoes	6.8	8.2	16,475	16.20	2
Turnips	–	–	510	–	–
Vegetables	2.3	2.9	5,215	14.80	6
Peanuts	3.7	4.1	7,200	13.05	93
Cotton	9.1	11.0	14,905	10.95	86
Sesame	4.3	5.2	4,995	7.70	92
By-products	–	–	20,820	–	3
Total and average	100.0	121.2	$139,235	$11.25	24

Amount sold—$33,330; average per farm—$83.30.
Grains sold—12.2 per cent.
Animals and animal products sold (average)—$10.50.

[1] Total crop mu—121 per cent of crop area.

TABLE 26. SIZE OF FARM AND PROPORTION OF CROPS SOLD

Size of Farm (mu)	Per Cent Sold				Production per Mu
	Owners	Part-owners	Tenants	Total	
1–10	12.5	7.8	21.1	13.5	$12.55
11–20	14.2	20.2	12.4	16.9	12.45
21–30	21.6	20.3	17.8	21.0	13.10
31–40	21.6	24.2	56.0	23.2	12.50
41–50	23.5	29.3	–	25.8	11.25
51–100	27.1	26.0	27.0	26.9	11.60
Over 100	31.3	–	–	31.3	11.30
Average	24.4	22.9	22.2	23.9	12.05

Average value of production per mu: owners $12.00, part-owners $12.30, tenants $12.25.

2: Gamble S-5 (1926-1933)1954 AF12 North China AF12

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TABLE 27. FARM EXPENSES

	Per Mu			Average	21–30 Mu
	Owner	*Part-owner*	*Tenant*	*per Family*	*Group*
Hired labor	$1.04	$0.23	$0.10	$ 24.50	$ 11.75
Fertilizer	.31	.22	.18	8.80	6.75
Fodder	.05	.07	.19	1.75	2.90
Seed	.10	.12	.20	3.25	2.20
Implement repair	.04	.03	.02	1.15	.80
House repair	.14	.03	.05	3.25	3.45
Hsien taxes, owner	.10	–	–	3.55	2.65
——, part-owner	–	.07	–	1.70	1.65
Rent, part-owner	–	1.25	–	31.55	32.15
——, tenant	–	–	3.75	53.60	112.50
Est. value family labor	1.60	2.60	2.11	57.60	65.10
——, animal labor	1.32	1.43	1.05	41.50	41.15
Total or average	$4.70	$6.05	$7.65	$158.40	$153.45
Labor per mu, man				$2.65	
——, animal				1.35	
Land rent, average per mu				3.65	

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TABLE 28. SOURCES AND AMOUNTS OF FAMILY EARNINGS

	Owner	*Part-owner*	*Tenant*	*21–30 Mu*	*Total*
Farm net	$257.15	$154.00	$ 65.70	$187.00	$212.30
Labor on own farm (family, animal)	102.65	99.90	47.60	106.00	99.40
Labor for others	2.55	8.00	10.75	3.85	4.85
Rent of land	5.30	–	–	–	3.20
Interest on loans	3.95	.55	–	1.25	2.60
Home industry	10.95	12.45	7.80	11.95	11.25
Business	7.15	10.90	5.25	3.95	8.30
Other	5.85	3.80	10.30	6.05	5.40
	$395.55	$289.60	$147.40	$320.05	$347.30
Per person per month	$ 4.85	$ 4.05	$ 3.03	$ 4.30	$ 4.58

2: Gamble S-5 (1926-1933) 1954 . AF12 North China AF12

438 462 family increased as the size of land holdings and the size of the family increased. It was 1.2 for the landless group but three times that for the 75–99 mu group.

438 462 562 The proportion engaged in home industry decreased for both the males and the females as the land holdings increased. The highest top figures were 45.0 per cent for the males and 69.2 per cent for the females. Both were in the under 25 mu group. If we assume that from 25 to 30 per cent of the females were girls too young to work (in our 5,255 families 25.3 per cent of the females were under 12 and 29.2 per cent were under 14 years of age), it seems evident that almost all of the older females in the families with less than 25 mu were doing some home industry. Even in the families with 100 or more mu of land 45.3 per cent of all the females were reported as working in home industry. Spinning is easy to do and the extra personal income undoubtedly appealed.

438 Detailed figures for three villages showed that from 40 to 57 per cent of the home industry workers began working before they were 15 years of age and that from 92 to 96 per cent began before they were 20 years of age. In one village there were two men who said they began working before they were 10 years old. There were two men and three women who began after they were 50 while one man and one woman said they started after they were 60 years old. Eleven persons said they had worked 65 or more years. Two women claimed to have worked 70 years.

438 435 The value of the annual industrial output was estimated to be $279,715, an average of $230 per family and $85 per worker. The average profit was estimated to be 16.4 per cent, $37.60 per family and $13.95 per worker per year. For the entire hsien the average income from home industry was estimated as $12.50 per family.[2]

The profit figures for the males and females show a wide range in the different villages. For the males the amount varied from $10.50 to $34.45. For the females the lowest amount was an average of $3.65 per year, one cent a day. In four villages the amount was less than $8.20 per year. The highest amount was $24.05 but that was in the mat weaving village, where it was impossible to separate the work of the men and the women and both had to be given the same average. If the division could be made, the average for the females would undoubtedly be considerably lower and that for the males correspondingly higher.

438 While we found it difficult to get an accurate estimate of the amount

2. See Chapter XV.

2: Gamble S-5 (1926-1933)1954 . AF 12 North China AF 12

150 mu, while in three-quarters of the villages it was less than 250 mu. In only 32 villages, 7.0 per cent, was the largest holding 400 or more mu. Only two villages reported their largest holding to be over 1,000 mu.

The largest amount of land owned by one family was 3,950 mu. That was a city family. The largest family holding in any village was 1,800 mu, 300 acres. Only three families owned more than 1,000 mu; only six more than 600 mu, 100 acres; only 11 more than 500 mu. There were only 132 families who owned 300 mu (50 acres) or more. They were only 0.2 per cent of the land owning families. Large land holdings were not a serious problem in Ting Hsien.

The 2.1 per cent of the families who owned 100 or more mu held 17.1 per cent of the farm land. The 9.0 per cent owning 50 or more mu owned 38.6 per cent of the crop area. At the lower end of the scale, 91 per cent of the land owning families had less than 50 mu, while 72 per cent had less than 25 mu each. The latter group owned 33.1 per cent of the crop area.

Our study did not subdivide the families with less than 25 mu, but in the study of a single village, located some miles south of Ting Hsien, 85.2 per cent of the families owned less than 50 mu, while 62.3 per cent had less than 20 mu. Fifteen per cent had less than five mu per family, 23.1 per cent had from 5.0 to 9.9 mu, and 24.2 per cent from 10.0 to 19.9 mu. The 15.0 per cent with less than five mu per family owned only 1.5 per cent of the land. Those with less than 20 mu owned some 22 per cent of the farm area. The 3.5 per cent of the families who owned 100 mu or more held 20.9 per cent of the land.[1]

Just over 10 per cent of the privately owned land was listed as worth less than $25 per mu. Just under one-quarter, 24.3 per cent, was worth from $25 to $49, while a little more than another quarter, 28.2 per cent, was valued between $50 and $74. Only 0.6 per cent was worth $150 or more per mu. (See Table 61.)

As might be expected, the distribution in the different price classifications varied considerably in the different districts. Forty-seven per cent of the land in the 3rd District was valued at under $50 per mu. In the city only 8.7 per cent was valued at less than $50 per mu and none at less than $25 per mu. At the upper end of the scale 48.5 per cent of the city land was worth $100 or more per mu. In the 2nd District the

1. Sidney D. Gamble, "Hsin Chuang", *Harvard Journal of Asiatic Studies*, vol. 8, no. 1 (1944).

2: Gamble S-5 (1926-1933) 1954 AF 12 North China AF 12

435 proportion was 25.2 per cent, but it was only 8 per cent in the 4th District.

In 238 villages controlling 839,540 mu of land, of which 55.4 per cent was irrigated, 21.9 per cent of the unirrigated land was worth less than $25 and 66.2 per cent less than $50 per mu. Only 0.6 per cent was worth $100 or more. For the irrigated land the figures were practically reversed. Only 0.2 per cent was reported as worth less than $25 per mu, while 20.9 per cent was worth $100 or more. For the irrigated land the median value was between $75 and $99 per mu. For the unirrigated land it was between $25 and $49 per mu. (See Table 62.)

427 Only 3,826 families, 5.9 per cent of the land owning families, rented
423 land to others. All but 514 of this number were owner-lessors and farmed part of the land they owned. The 514 non-farming landlords, who rented all the land they owned, were only 0.7 per cent of the Ting Hsien families. One-third of the non-farming landlords lived in the city and another one-sixth in the 1st District. Of the families living in the city, 7.8 per cent were listed as landlords. In the 1st District the figure was 1.5 per cent. In the other districts the non-farming landlords were not more than 0.7 per cent of the families. In the 4th District the figure was only 0.1 per cent.

The land rented to others by the owner-lessors and the landlords totaled 173,890 mu, 12.2 per cent of the privately owned crop area. (See Table 63.) Crop area, rather than farm area, figures are used as they do not include waste land, land used for houses, graves, and roads and so give a better basis for farming figures.

There was much more renting in the city and the 1st District around it than in the other districts. In this connection it must be remembered that 28,210 mu of land in the city and the three suburbs were classed as farm land and included in the crop area. In the 1st District and the city together 23.9 per cent of the crop area was rented, in the 2nd District 16.3 per cent, but in the 3rd District only 6.9 per cent. For the other districts the rental figures were all slightly more than 10 per cent.

Full tenants, those who rented all the land they farmed, numbered only 3,253. They were 4.7 per cent of all the families in the hsien and 4.8 per cent of the farm-operating families. The part-owners, who owned part and rented part of the land they farmed, were 24.2 per cent of all the families and 25.2 per cent of the farming families. If the part-owners are included in the tenant group the tenancy figure was 30

2: Gamble S-5 (1926-1933) 1954 AF 12 North China AF 12

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TABLE 62. VALUE OF IRRIGATED AND UNIRRIGATED LAND, 238 VILLAGES

	Irrigated		*Unirrigated*	
Value per Mu	*Mu*	*Per Cent*	*Mu*	*Per Cent*
Under $25	1,080	0.2	81,910	21.9
25–49	65,040	14.0	166,000	44.3
50–74	152,600	32.8	102,060	27.3
75–99	149,030	32.1	21,950	5.9
100–124	77,840	16.7	2,210	0.6
125–149	16,900	3.6	–	–
150 and over	2,930	0.6	–	–
	465,420	100.0	374,130	100.0

Per cent irrigated, 55.5.

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TABLE 63. LAND TENURE, 453 VILLAGES AND CITY

	Families	*Per Cent*
Owner	43,792	62.5
Owner lessor	3,312	4.7
Part-owner	16,932	24.2
Tenant	3,253	4.7
Landlord	514	0.7
Hired laborer	870	1.2
No farm	1,361	2.0
	70,034	100.0
	Number	*Per Cent*
Owners	64,550	92.1
Non-owners	5,484	7.9
	70,034	100.0
Operators	67,289	96.1
Non-operators	2,745	3.9
	70,034	100.0
	Mu	*Per Cent*
Land operated by owners	1,251,040	87.8
Land operated by renters	173,890	12.2

2: Gamble S-5 (1926-1933) 1954 .AF 12 North China AF 12

TABLE 70. CROP AREA, VALUE, AND PRICES, 1931

	Total Crop Mu	*Per Cent of Crop Mu*	*Value (000)*	*Price (per tou)*	*Average Value per Crop Mu*
Millet	493,560	27.0	$ 3,264	$0.50	$ 6.60
——, glutinous	23,240	1.3	145	.54	6.30
——, panicled	22,860	1.3	140	.53	6.10
Wheat	314,930	17.2	2,689	.88	8.60
Kaoliang	118,540	6.4	592	.54	5.00
Corn	60,960	3.3	407	.53	6.70
Barley	59,290	3.2	347	.40	5.50
Buckwheat	48,310	2.7	286	.50	6.00
Rice	2,090	0.1	25	1.16	11.80
Beans, black[1]	221,300	12.0			
——, white[2]	73,370	4.0	1,777	.77	6.00
——, green[3]	770	–			
Peas	350	–	–		
Sesamum	12,740	0.7	109	1.28 (per catty)	8.00
Peanuts	53,990	3.0	670	.05	12.40
Sweet potatoes	95,080	5.2	2,312	.012	24.30
Squash	12,470	0.7	278	.01	22.30
Cabbage	10,500	0.6	475	.015	45.20
Turnips[4]	6,140	0.3	45	.009	53.30
Carrots	2,140	0.1	43	.008	20.00
Onions	1,220	0.1	37	.014	30.60
Other vegetables	10,160	0.6	295		27.90
Cotton	121,190	6.6	1,770	.147	14.60
Watermelons	1,220	0.1	37	.105	28.40
Muskmelons	1,190	0.1	34	.018	30.00
Rhubarb	140	–	4	.09	30.00
Pears	3,680	0.2	196	.027	54.50
Dates	1,870	0.1	32	.054	17.00
Apricots	150	–	9	.027	62.10
Apples	60	–	2	.023	39.00
Other fruit trees	440	–	13		30.70

(continued on next page)

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(TABLE 70 CONTINUED)

	Total Crop Mu	Per Cent of Crop Mu	Value (000)	Price (per tou)	Average Value per Crop Mu
Medicine	250	–	3	–	12.75
Tobacco	700	–	16	.075	22.50
Broom plants	290	–	7	.0785	23.20
Onion seed	260	–	3	1.60	11.20
Other	330	–	1	–	3.95
Poplars	28,960	1.6	–	–	–
Willow trees	13,560	0.8	–	–	–
Willow shrubs	10,630	0.6	–	–	–
Elms	600	–	–	–	–
Other trees	16	–	–	–	–
Total	1,8[illegible]		$16,063		$8.75
Crop area	1,424,930				$11.25
Per capita					$40.00

1 15 per cent grown with kaoliang and glutinous millet.
2 Grown with millet.
3 Grown with sesamum.
4 87 per cent grown with buckwheat.
5 Per piece.

TABLE 71. FARM WAGES

	1912	1921	1930
	Annual Wage		
Head man	$20	$30	$60
Assistant head	15	25	50
Permanent worker	10	20	45
Beginner	5	10	20
	Monthly Wage		
1st class worker	$2.50	$3.50	$7.00
2nd " "	2.00	3.00	5.50
3rd " "	1.50	2.50	3.50
	Daily Wage, Busy Season		
1st " "	$0.10		$0.30–.40
2nd " "	.07		.25
3rd " "	.04		.13

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CHAPTER XII

Farm Operation—Costs and Returns

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DEMONSTRATION farmers of the Mass Education Movement were enlisted to keep complete accounts for some of their fields during the crop year of 1930. From their records we have endeavored to secure cost and production figures on barley, buckwheat, corn, cotton, millet, and wheat in order to determine the approximate profit or reward of management accruing to Ting Hsien farmers. The demonstration farmers had been selected from the better graduates of the Movement's Peoples' Schools, had taken at least one of the short courses of the Movement's agricultural school, and had been appointed to demonstrate the approved methods of growing their special crop. They kept day by day records of their operations on their demonstration fields. Their records were totaled and then figured on a per mu basis. One series of reports was secured from farms in the Experimental District, a second from farms in the area around the city. The first series included reports on 28 plots of millet, 25 of wheat, 17 of buckwheat, 31 of barley, and 40 of cotton. In the second series were 44 fields of corn, 50 of barley, and two millet groups of 25 plots each. The total number of records studied was 285. The total area was 1,531.9 mu.

The individual fields varied in size from one to 55 mu, but only 36 were over nine mu, or one and one-half acres. One-half of the larger fields were in the third millet series. The average field had 5.4 mu, the median field 3.5 mu. For the different series the average fields were:

Barley 1	2.3 mu	Millet 1	5.5 mu
" 2	2.4	" 2	8.0
Buckwheat	4.3	" 3	17.5
Corn	4.3	Wheat	5.1
		Cotton	4.1

The cost items recorded included rent, seed, fertilizer, and labor. The rent was the amount paid for the use of the land if it was leased or the

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435 rent value if the land was owned by the farmer. The labor cost was subdivided into the amounts used for plowing, seeding, applying fertilizer, irrigating, cultivating, and harvesting. Much of the labor used was naturally that of the farm family or the farm animals. For this it was necessary to set an arbitrary value, approximately the average of the current labor market. The amounts used per day were:

Man: 50 cents	Horse or mule: 60 cents
Woman or boy: 25 cents	Donkey or cow: 40 cents
Child: no charge	

121 435 In this study no attempt was made to set any cost for the use of the farm tools. A study of another group of families (see Chapter III) gave the average value of the tools as $1.25 per mu, and the cost of tool repair as three cents per mu. Depreciation of 10 per cent per year added to repairs would make the average tool cost amount to 16 cents per mu. This amount has been included as one of the cost items. Taxes have been entered as 10 cents per mu, the average amount of the hsien tax. No figures were available for village taxes.

It will be noted that most of the items listed as crop expense involve little if any expenditure of money by the farm family since they also can be listed as family income. This is particularly true of labor and rent. On the smaller farms no hired labor was used and land in Ting Hsien was 87.8 per cent owner operated.

The farms studied were samples of a fairly wide area for usually there were not more than one or two demonstration farmers for a crop in any village. The 40 cotton records came from 37 villages, the 50 barley records from 23 villages, the 28 millet records from 25 villages, the 17 buckwheat records from 15 villages.

As might be expected in a series of this sort, there was a wide variation in the average amounts reported spent for the different items for the various crops. There was an even wider range in the amounts reported by the farmers growing the same crops. In some instances the largest amount reported for one particular item was as much as 10 or even 20 times the least amount reported. More generally the highest amount was three, four, or five times the lowest. Some of the differences were possibly due to some incomplete reporting. Others were definitely due to differences in the location and type of the soil, to different farming methods, and to differences in the crop rotation system. The aver-

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ages, however, seem to give a fair approximation of the total cost and gross and net returns for the different crops. 121 435

The averages given in Column 10 of Table 77 have been determined by weighting the averages for the different crops according to the hsien area planted to the six crops included in this study. Their area amounted to 60 per cent of the total crop mu in the hsien and almost 75 per cent of the total crop area. The weighting factors were millet 45, wheat 29, cotton 11, corn 6, barley 5, buckwheat 4.

The rent figures have been adjusted to reflect single or double cropping of the farm area. Fifty per cent was charged to each crop when there was double cropping, 100 per cent when there was single cropping. Barley and wheat are winter crops and are generally followed by a second crop. Cotton is regularly the only crop. Buckwheat is a second crop. Millet and corn may be the only crop or part of a double crop system. Rent for the cotton land ranged from $4.00 to $8.00 per mu. The year's rent for the land planted with buckwheat ranged from $3.00 to $5.50 per mu. For the wheat land it varied from $3.00 to $8.00 per mu. As the records were all for irrigated land, it seems evident that the usual rent, or rent value for such land, varied from $3.00 to $8.00 per mu per year, with the average about $4.80 or $5.00 per mu. From the rent figures, it seems probable that the index of double cropping for these farms was about 145. For the hsien it was 128.

Judging from the average cost of plowing, approximately 34 cents per mu, a man and a horse could plow a little more than three mu per day. From the records it would appear that the Ting Hsien farmers did extra plowing for cotton and buckwheat. We wonder if the 55 cents a mu reported by the millet farmers in the Experimental District was for deeper plowing, done as a result of longer contact with the Mass Education Movement's agricultural program. For the other millet groups the amounts were 20 and 39 cents per mu. 435

The value of the fertilizer used averaged $2.08 per mu. Barley, wheat, and cotton generally were given more than the other crops although the highest average for any one of the different crop groups was for the Experimental District millet. The cost of the labor for applying the fertilizer averaged 39 cents per mu, with the largest amounts reported for cotton and wheat.

The cost of the seed used showed a wide variation in the amounts

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435 planted. For most of the crops the heavy seeders used about twice as much as those who used the least amount. The average amount used was about one-tenth of a tou of millet, one-sixth of a tou of corn, one-fifth of a tou of buckwheat, six-tenths of a tou of wheat, and three-quarters of a tou of barley per mu. The average expenditure for seed was 28 cents per mu, but for millet it was only six cents, while for wheat it was 63 cents. The labor used to plant the seed averaged 32 cents per mu. The largest amount of labor was reported for barley, the smallest for corn and millet.

Irrigation from wells was used for all of the crops except buckwheat. The average cost was $1.06 per mu if the buckwheat area is omitted. The Experimental District millet farmers reported the smallest irrigation expenditure. We wonder whether this was related to the largest expenditure for plowing and for fertilizer. It was estimated that a man, working with a hand windlass, could irrigate about three mu per day at a cost of some 19 cents per mu. A Persian wheel, powered by an animal, could irrigate five mu at a cost of some 22 cents per mu.[1]

The mid-season cultivation cost of 63 cents per mu represented about one-half day's time of a man and an animal. Cotton required the most cultivation, corn and wheat the least.

Harvesting required an average of less than a day's labor per mu. A man could harvest some four mu of corn per day but only two of barley and one of cotton. It is difficult to see why harvesting should cost one millet group only 15 cents per mu and another 85 cents per mu and why one barley group should spend more than twice as much as the other. Differences in the distance the crops had to be hauled to the threshing floor would account for only a small part of the discrepancy.

The total average labor cost ($3.06 per mu) from plowing to harvesting represented some six man days of labor. Corn and buckwheat had the smallest labor cost, cotton and barley the largest.

The total production cost of the grains including rent, seed, fertilizer, and labor averaged, for these farms, $8.60 per mu. The corn and buckwheat farmers reported the smallest expense, the barley growers the largest. For cotton the expense was $12.35 per mu. Single crop rent and large use of fertilizer were mainly responsible for the extra expenditure for cotton.

1. China International Famine Relief Commission, Series B #49, *Well Irrigation in West Hopei*, Preliminary Report, December, 1931.

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The production from the individual plots showed a wide range varying from 3.5 to 16 tou per mu for wheat and from 6 to 30 tou for corn. The averages for wheat, corn, barley, and millet were, however, similar. They all were between the 12 tou for wheat and the 13.6 tou for millet. Buckwheat averaged only 7.5 tou. Cotton production varied from 70 to 140 catties per mu, except for one farm that produced only 16 catties. Something very unusual must have happened to that plot. The cotton average was 95 catties per mu or approximately 750 pounds per acre.

The straw, stalks, and dried vines all had enough value to be counted as part of the farm production. The amounts reported varied from a minimum of 37 catties for one buckwheat farm to a maximum of 500 catties for a millet farm. For buckwheat the average was 105 catties. or wheat it was 145 catties. For barley and millet it was some 250 tties per mu. Beans grown on two millet plots and cabbage grown on ve buckwheat plots were included in the by-products.

The prices quoted for the farm products varied to a considerable egree, possibly reflecting differences in quality and also possibly a market to market difference in price. The averages per tou were barley 63 cents, buckwheat 93 cents, corn 65 cents, millet 66 cents, and wheat $1.04. For cotton the average was 14.3 cents per catty. These prices were all considerably higher than the 1931 figures found in our hsien wide crop study. (See Chapter X, Table 70.) A weighted index number for the five grains showed a 20 per cent drop in 1931.

In Peking the 1931 weighted index number for the food items included in the working class family budgets was 17.3 per cent below the 1930 figure. In Tientsin the drop was 8.5 per cent.[2]

The average prices per 100 catties for the by-products were barley 46 cents, buckwheat 39 cents, corn 39 cents, wheat 42 cents, millet 65 cents, and cotton 95 cents. Beans were quoted at $1.00 and $1.20 per tou, cabbage at three, four, and five cents per catty.

The grains produced an average gross income of $9.50 per mu. Of this, $8.20 was for grain and $1.30 for straw and other products including a few beans and a little cabbage. The gross income from cotton was $14.85 per mu, considerably more than for any of the grains, but this was offset by the higher rent and cultivation costs.

Corn gave the largest average net return. Barley was the only crop

2. National Tariff Commission, *The Shanghai Market Prices Report*, Shanghai, October–December, 1933.

TABLE 77. FARM COSTS AND CROP VALUE PER MU

	Barley 1	*Barley 2*	*Buck-wheat*	*Corn*	*Millet 1*	*Millet 2*	*Millet 3*	*Wheat*	*Cotton*	*Weighted Average*
Labor:										
Plowing	$0.29	$0.30	$0.46	$0.23	$ 0.55	$0.20	$ 0.39	$0.23	$ 0.46	$ 0.34
Seeding	.45	.66	.28	.14	.39	.10	.24	.36	.49	.32
Fertilizing	.43	.39	.59	.15	.40	.26	.19	.45	.71	.39
Irrigating	1.33	2.18	–	1.40	.80	1.05	1.22	.97	.91	1.01
Cultivating	.39	.94	.48	.31	.81	.70	.41	.35	1.05	.58
Harvesting	.52	.24	.71	.13	.85	.15	.21	.42	.51	.42
Total labor	3.41	4.71	2.52	2.36	3.80	2.46	2.66	2.76	4.13	3.06
Rent	2.23	1.85	2.17	1.83	2.33	3.22	4.46	3.03	5.25	3.23
Seed	.43	.49	.21	.10	.09	.06	.05	.63	.24	.28
Fertilizer	2.17	2.42	1.28	1.49	2.88	1.72	1.88	2.39	2.47	2.08
Implements and taxes	.26	.26	.26	.26	.26	.26	.26	.26	.26	.26
Total cost	8.50	9.73	6.44	6.04	9.36	7.72	9.31	9.07	12.35	8.91
Crop value	7.08	7.60	7.00	8.47	9.38	8.48	8.73	8.49	13.57	9.16
By-products	.63	1.68	1.07	.86	2.05	1.29	2.02	.61	1.28	1.28
Total products	7.71	9.28	8.07	9.33	11.73	9.77	10.76	9.10	14.85	10.44
Net return	(0.79)	(0.45)	1.63	3.29	2.37	2.05	1.44	0.33	2.50	1.53

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443 and the number of each are given in Table 91. On market days 94 of the stands were set up by city stores, 93 by city residents, and 247 by village residents who brought their wares into the city. We were interested to note that horse meat was offered on four stalls.

Most of the stalls were simply a table or stand that held a small amount of goods. On non-market days 31 per cent had less than 10 square feet of area and 88 per cent had less than 25 square feet. Only four per cent had 50 or more square feet. Larger stalls were set up to take care of the market day business. Then only 11 per cent had less than 10 square feet. Thirty per cent had 50 or more square feet. The largest had over 300 square feet.

The 50 temple fairs held in 35 different locations throughout the hsien gave a great opportunity for trade as they drew anywhere up to 10,000 people per day for the three, four, or more days of the fair. The free theatrical plays provided by the village holding the fair, the other entertainment, and the general excitement were very attractive. The shops, stalls, shows, and parking yard for carts in the largest fair at Pei Ch'i covered 150 mu, 25 acres. The map on page 5 shows where the fairs were held. The dates for the fairs, their connection with religion, and other details are given in Chapter XVIII.

443 435 Prices in the stores, markets, and fairs were not always easy to determine as there was no fixed price for many articles and usually there was no open bidding in the market. Sales were made between individuals and prices were often determined by signs rather than words, with the signs being made under cover of the buyer's and seller's sleeves. Their fingers on the other person's arm set one price while they might talk about an entirely different one. This, plus the lack of general inter-village communication, often made it difficult for the farmers to secure top or even fair prices for their produce. They kept a general check on current prices by visiting various markets in the neighborhood and getting reports from people who had visited the city and town markets.

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TABLE 90. CHAI CH'ENG FOOD MARKETS
(8th month, 14th day, 1928)

	Sellers	*Price per Catty*[1]	*Catties Offered*	*Stall Rent*
Beans	18	9		
Beef	1	$0.142	1,200	$0.20
Cabbage	6	2		
Cakes	7	62–96	2,700	.20
Celery	1	52		
Cucumbers	3	32		
Eggplant	38	4		
Ginger	14	108		
Grapes	9	$0.18	280	.10
White beets	5	60		
Leeks	4	8		
Mutton	8	$0.167	150	.20
Noodles	29	$0.133		.20
Onions	6	4		
Pears	26	$0.16	3,900	.10
Persimmons	5	62	763	.10
Pomegranates	4	$0.14	160	.10
Pork	51	$0.20	1754	.10
Squash	23	2		
Cooked food	4			.20
	262			

1 In coppers, except decimal figures, which are in cents.
2 Each.
3 Baskets.
4 Pigs.

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thirds of the male workers and 99.5 per cent of the female workers were engaged in home industry. The widespread hand spinning and weaving of the locally grown cotton accounted for the very large proportion of female workers. Over 60,000 were spinning, weaving, or both. Another 6,000 were engaged in other kinds of work. Eighty-eight per cent of the home industry workers were engaged in spinning, weaving, or both. About one-third of all females in the villages and some 8 per cent of the males were engaged in some form of home industry.

Because some families and workers were engaged in more than one industry there was unavoidable duplication in the home industry figures for both families and workers. In determining the above figures we have made allowance, on the basis of the actual duplication in 1,220 home industry families (see Chapter IV), for the known but necessarily estimated duplication in our hsien totals. In the 1,220 families the duplication was 27.5 per cent for the families, 10.5 per cent for the female workers, but only 1.1 per cent for the male workers. Spinning and weaving covered all but 2 per cent of the workers' duplications. In our industry tables we have not attempted any adjustment in the totals as the duplication can only be estimated. It must, however, always be kept in mind when the family and worker totals are considered.

In some cases it was difficult to make a sharp distinction between home and shop industry. The payment or non-payment of wages to the workers has been the chief determining factor. Home industry generally did not involve paid workers though they might be hired occasionally during especially busy times. Home industry generally was carried on in winter or other leisure time, but might be year round. Shop industry was generally year round, but might be seasonal. Apprentices were employed in some of the shops. Cotton ginning, which in some instances was done in the homes, has been listed as a shop industry as most of the workers were paid on a piece rate basis. Weaving was classified as a home industry although a few weavers were paid according to their output.

The value of the industrial output in 1931 was estimated to be some $8,570,000. Fifty-seven per cent of this amount was produced by home industry. Cotton products were 56 per cent of the total. The village shops produced more than four times as much as the city shops but the city output per shop was almost twice that of the villages. The average annual output per worker was city shops $890, village shops

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$400, and home industry workers $54. For the thread spinners production averaged only $13.80 per person per year.

The estimated profit of the shops totaled some $500,000. The gain from home industry was approximately $880,000. The profit per worker was city shops $260, village shops $36. The average gain for the home industry workers was only $10.70. For the thread spinners it was only $2.90. Without them the average was $15.45. The shop profit is figured after the payment of the workers' wages and other expenses, the home industry gain after the payment for raw materials, but before any wage allowance.

Table 92 shows the number of shops and workers and how the industrial work was divided between city and village shops and home industry. Because our production figures are based on estimates the tables give them only to the nearest $10.

Our industry figures are based on five studies:

(1) A survey of the primary and secondary occupations, farming, industrial, and professional, of all persons over 12 years of age in 515 families in the Experimental District. The results of this study are given in Chapter II.

(2) A detailed study of the 204 shops in the city and its three suburbs.

(3) A general study of home and shop industry in the 453 villages and towns.

(4) A house to house survey of the industrial activity of the 2,260 families living in six villages and a detailed study of 1,220 of the 1,740 families reporting some home industry. The findings of this study are reported in Chapter IV.

(5) A historical study of wages, prices, and other factors of cotton ginning and cloth weaving for various parts of the 52 years from 1882 through 1933.

The industrial information for the 515 families was secured as part of our detailed study of those families. The information on the shops in the city and the villages was secured, for the most part, by talking with the masters and workers of the shops. When definite information was unavailable, we endeavored to approximate it with help from neighboring shops or to make our own estimate. When there were only a few families in a particular type of home industry, we secured our figures from them. When large numbers of families were involved, as in spin-

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more than $50,000. Eye medicine, for which Ting Hsien is famous throughout China and southeast Asia, had the largest total, $303,000, produced by 18 shops. This was 40 per cent of the city production. The other four large industries were cotton ginning, cakes and condiments, flour milling, and shoes. The five industries together accounted for 78 per cent of the city's total output.

Four of the 31 village industries, cotton ginning, timber, flour milling, and brick making, had totals of more than $150,000. Only one, cotton ginning, was over $300,000. Its total was $1,811,840. The four industries included 83 per cent of the village industry total.

Five of the 88 home industries—cotton cloth weaving, cotton thread spinning, pig bristle sorting, reed mat weaving, and bean curd making—had totals over $150,000. Three—spinning, weaving, and bristle sorting—were over $500,000. Cotton cloth weaving was the only one over $1,000,000. Its total was $2,307,000. The five industries accounted for 85 per cent of the home industry total.

In the detailed tables we have given an estimate of the rate of profit or gain as a percentage of the value of output of each industry. These can only be rough averages, for the proportion naturally varied from shop to shop and family to family, but the figures show what those in each industry thought was the general rate for their business. The range was from 3 per cent for the home industry vermicelli makers to 52 per cent for the eye medicine makers and 68 per cent for those making the screens used in making paper. The vermicelli makers were able to continue with a low profit because the residue from their operations was good food for pigs.

Four of the city industries reported profits of more than 30 per cent and four less than 10 per cent. Eye medicine was the highest. Vermicelli making was the lowest, with 8 per cent.

Six village industries had average profits over 30 per cent, three were under 10 per cent. Cotton ginning was the lowest with 6 per cent, pewter the highest with 47 per cent.

Because no wages were involved in the home industry figures their gain or profit rates ordinarily were higher than those of the shops. Six of the 86 reported rates were 60 per cent or more, 27 were over 30 per cent, seven were less than 15 per cent, but only one, vermicelli making, was less than 10 per cent. It was 3.0 per cent.

The average gain per worker per year for the different home indus-

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14 workers. They were two large eye medicine shops, one with 25 workers, the other with 45.

The 824 workers in the city shops were divided:

	Number	*Per Cent*
Manager, accountants, clerks	119	14.4
Workmen	543	66.0
Apprentices	162	19.6
	824	100.0

The 162 apprentices were being trained in 117 of the shops, 58 per cent. The training period ordinarily was three years. In some cases it was three years plus a festival. In a few trades it was four or even five years. All the boys were given room and board. Some shops also provided their clothing. No regular wages were paid the apprentices but in most cases they were given presents of money at New Year's time. The amount was usually $5.00 or $10.00 depending on the time the boy had been with the shop. As so many of the shops had relatively few workers there were only 10 that had more than one or two apprentices. One large eye medicine shop reported 10. There was an average of one apprentice to 4.1 other employees and one apprentice to 3.4 other workmen.

The wages paid by some of the shops are shown in Table 94: daily from $0.45 to $1.00, monthly from $3.50 to $30, and yearly from $30 to $70—all plus board and tips.

The estimated value of the goods produced by the city shops totaled some $731,000. This was an average of just under $300 per shop per month. For one-third of the shops the amount was less than $85 per month. Only one-fifth of the shops produced as much as $250 per month.

The estimated profit of the city shops was some $216,000, almost 30 per cent of the value of the output. The high rate of profit of the eye medicine shops, 52 per cent, and their large proportion of the output, 42 per cent, were largely accountable for this high average. Only 10 industries reported a rate of more than 20 per cent and only five more than 25 per cent. Only 20 per cent of the shops were in the "more than 20 per cent" group.

Profits were less than $200 a year for 53 per cent of the shops. Only 14 per cent made as much as $50 a month. Three shops, evidently eye medicine shops, were in the $10,000 a year and over group.

The best reports and estimates we could get on the amount of capital invested in the city shops gave the total as $77,160, an average of only

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435 438 472 $380 per shop. The individual amounts ranged from $30 to $5,500. For 52 per cent of the shops the amount was less than $300. For 81 per cent it was less than $500. The average investment per worker was only $95.

The relatively small amounts of capital shown may be partly due to under-reporting, as the shop keepers naturally were hesitant about giving complete answers to our questions. At the same time it must be remembered that a very large proportion of the shops were in rented quarters. (Eighty-two per cent of the stores in the city rented their buildings and the figure for the shops was probably about the same.) Almost no machinery was used; most of the equipment was inexpensive hand tools; only a small labor investment was required as wages were low and most of the manufacturing processes were simple and short; inventories of finished goods usually were not large. The reported value of the goods produced represented a capital turnover of 9.5 times. The estimated profit was 2.8 times the total capital. Any under-reporting of capital would make these figures larger than actual. It should also be noted that 72 per cent of the total profit was earned by the eye medicine stores, whose estimated profit rate was 52 per cent of their output.

Profit figures for the individual village shops, if available, would undoubtedly be smaller than for the city. The average shop output was only 52 per cent of the city average. The average output per worker was $100, less than half the city average. The total estimated profit for the 1,578 shops was only one-third larger than the total for the 204 city shops. Cotton ginning with a 6 per cent profit was the largest item rather than eye medicine making. The average rate was only 9.1 per cent. For the city shops it was 29.6 per cent.

If the rate of capital turnover was the same in the villages as in the city the average capital for the village shops was $180 and the profit 100 per cent per year.

If, after making allowance for possible under-reporting of capital, the profit rates still seem unduly high, it must be remembered that interest rates on secured personal loans averaged some 21 per cent per year in 1931 and many of the stores paid 18 and 24 per cent per year for money left on deposit with them.

Cotton Ginning and Batting

288 Cotton was the fifth Ting Hsien crop in value, $1,770,000. It was the largest money crop, as the other large crops, grains and sweet potatoes,

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per spinner or a little more than one catty per market day for the winter months. 283

The thread markets, usually called the Dew Market, were held early in the morning and lasted only a short time, ordinarily ending before 10 o'clock. One explanation of the market's name was that like the dew it disappeared early in the day. Another was that the thread came to market with dew on it, for on the eve of the market the finished thread was usually wrapped in a handkerchief that had been soaked in water and then was left over night on the ground in order that the dampness might add to its weight.

The different thread markets used different weight units. In some a catty of thread was only 3.5 ounces of the generally used 16 ounce catty. In others the thread catty was 4.5 or 5.5 ounces. All our price and weight figures have been adjusted to the 16 ounce catty base.

The estimated output of thread in 1931 was 962,300 catties, an average of 34 catties per spinning family and 24 catties per spinner. At 57 cents per catty, the average price for 1931, the value of the thread was just under $550,000. The average value per worker was $13.80. 283 435

The average gain from spinning was estimated to be 21 per cent of the market price or 12 cents per catty in 1931. At that rate the average gain per worker was $2.90 per year. In the 4th District the average was only 87 cents per worker but in the 4th, 5th, and 6th Districts it was $4.00 per year.

It was reported that, while in 1931 the average gain was 12 cents per catty, fluctuations in the price of thread sometimes reduced the gain to as little as 2.5 cents per catty. In 1932 the average price of thread in six sample villages ranged from 37 to 50 cents and averaged 45 cents per catty.

For the different villages the average gain per spinner ranged from 29 cents to $100 per year. The latter was for two men in one family who evidently were full time spinners. To make that much their average output would have to be some 2.5 catties per day. There were 58 villages in which the reported average gain per spinner was less than $1.00 per year. Fifty-two of these were in the 4th District. There were only six villages in which the reported average gain was over $10.00 per spinner per year. 283 434

In our group of 1,220 home industry families (see Chapter IV) it seems probable that even in the families with the largest farms (in- 283

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291 Some of the old weavers said that the weaving of the waist bands began in the 6th year of Chia Ch'ing, 1801, when the floods of the T'ang river drove many families from their homes and they had to find some way to keep from starving. Tradition says that at that time someone made a narrow loom like the ordinary cloth loom and began the weaving of the waist bands, which were 4.5 feet long and one inch wide, and the leg bands, which were 3.5 feet long and 2 inches wide.

The waist and leg bands were still woven only on the banks of the T'ang. All of the leg band weavers lived in the 6th District and 90 per cent of the waist band weavers. The other 10 per cent lived across the river in the 5th District.

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439 Waist band weaving was an especially prosperous occupation during the early years of the Republic for there was a large market for them in the northwest areas. Poor economic conditions in the northwest had later cut the export of waist bands by some 50 per cent. In 1931 some 70 or 80 per cent of the output was exported to other parts of China. The price of a waist band loom was only $2.50 or $3.00.

Some 90 per cent of the gauze was shipped to the northwest, where it was used for funeral clothes. The other 10 per cent was used in Ting Hsien in making bean curd.

The field reports noted that the heavy cloth woven from three or four ply thread could not be made in the weaving cellars as the dampness wrinkled the cloth.

Cotton Cloth Exports

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435 Records of the cloth stores, figures from the shipping records of the railroads, and the reports of men who had been in the cloth business for many years made it possible to work out a history of the market prices of the chuang (export) cloth, the maximum prices set by the cloth gild, and the number of pieces exported from Ting Hsien to other parts of China during the 40 years from 1892 through 1931. The export and production figures were apparently identical as the cloth, woven in a special size, 36′ x 1′2″, was made exclusively for export to other parts of China and was handled through the cloth markets.

In 1892 the price of the chuang cloth was 700 cash per piece. It was the same for the next 10 years. In 16 years there was only one increase. That was 50 cash, 7 per cent. In the next 12 years, 1908–1919, there were six increases. The amounts were first 50 cash, then 100, then 150,

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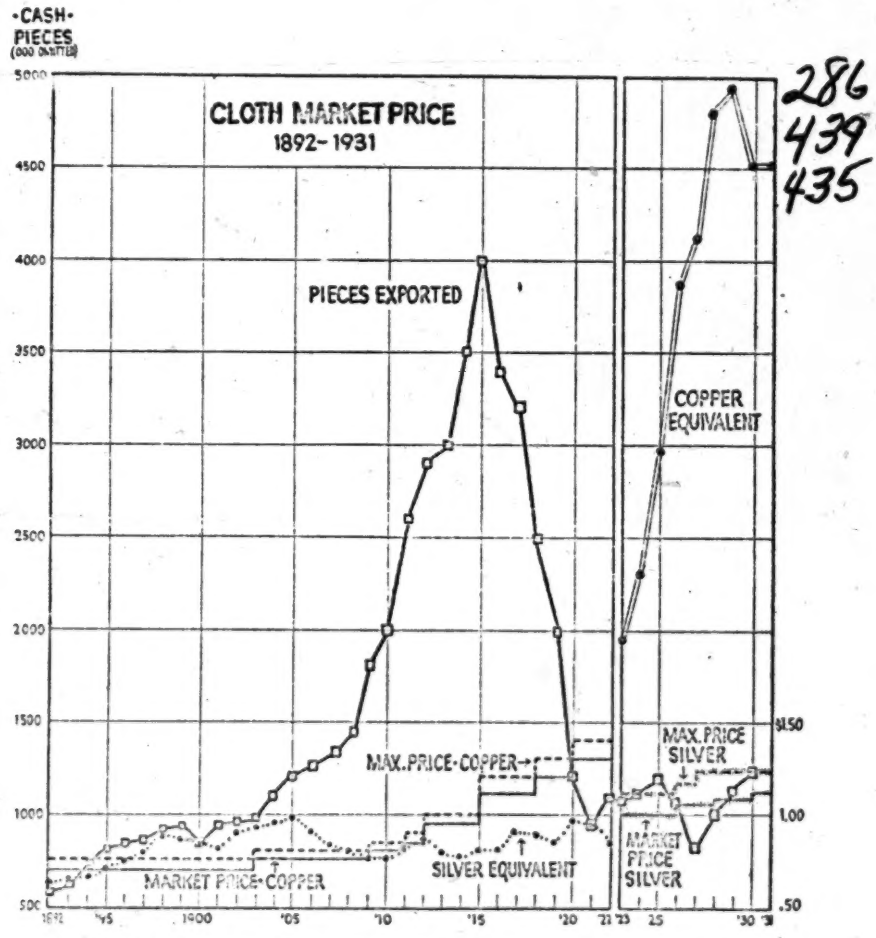

FIGURE 25. COTTON CLOTH, COPPER AND SILVER PRICES, EXPORTS

and finally 200 cash per piece. The seven increases totaled 700 cash. The copper price doubled in 28 years (see Figure 25).

The silver equivalent of the copper price of the cloth was 62 cents per piece in 1892. The decline in the silver-copper exchange rate,[2] plus the 1903 increase in the copper price, raised the silver equivalent to 99

2. See Chapter XIII.

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cents per piece in 1905. From 1905 through 1922 it varied between 76 and 96 cents per piece. In 1922 it was 83 cents per piece. In 30 years, while the copper price had doubled, the equivalent silver price increased only one-third.

Beginning in 1923 the price of chuang cloth was quoted in terms of silver rather than copper, because of the rapid depreciation of the copper coins. The 1923 price was $1.00 per piece. In 1930 and 1931 it was $1.20. The difference of 20 cents was the total of three increases of five and 10 cents each.

In 40 years the silver price increased 94 per cent. The copper equivalent of the 1931 silver price was seven times the copper price of 1892.

The records show that the cloth gild, at its annual meeting, regularly set a maximum price for chuang cloth above which the market price was not allowed to go. Theoretically the market price could fluctuate with the condition of the market, providing it did not go above the ceiling price set by the gild. Actually the records did not show any fluctuation. From 1892 to 1927 the market price and the ceiling price changed at the same time and by the same amount, except in 1915, when the maximum price was set 100 rather than 50 cash above the market price. When the price was changed from copper to silver the ceiling price was set at $1.20 with the market price $1.00 per piece. In 1930 and 1931 the ceiling price was $1.42, the market price $1.20.

The copper ceiling price was from 5 to 9 per cent more than the reported market price. After 1922 the silver ceiling price was from 18 to 29 per cent above the market price.

While theoretically the ceiling price was the only one controlled it would appear, from the records, that actually the market price was controlled as well. The gild control of the market price is still more evident when the amount of cloth sold and exported from Ting Hsien is related to the quoted prices. The records showed that except for 1900 the number of pieces handled increased every year from 1892 to 1915, from 600,000 to 4,000,000 pieces. Six years later only 950,000 pieces were exported, a decrease of more than 75 per cent. From 1921 to 1930 the number was usually just over one million pieces. While the number of pieces exported more than doubled from 1903 to 1910, the copper price went up only 6.5 per cent, from 750 to 800 cash, and the silver equivalent went down 18.2 per cent, from 93 to 76 cents per piece. From 1910 to 1915 the number of pieces doubled again, from two to four million.

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The copper price went up 37 per cent, from 800 to 1,100 cash per piece, but the silver equivalent rose only 5 per cent, from 76 to 80 cents.

During the six years from 1915 to 1921, the number of pieces sold went down 76.3 per cent, but during that time there were two increases in the copper price for a total of 300 cash, 27 per cent. The silver equivalent was nine cents, 11 per cent, higher in 1921 than it was in 1915. One wonders how it was that a community would see a 75 per cent decrease in demand and a sales loss of over $2,300,000 without attempting to save some of it by reducing rather than increasing prices. Even if it was spare time work the loss of the income from over a million and a half days of work could not help but be serious for any community.

Some of the loss undoubtedly was salvaged by shifting the looms to the weaving of other kinds of cloth. However, it does not seem probable that the local market could absorb any large additional amount. Unfortunately we were not able to get from the gild leaders their explanation of how it was that the price could go up in the face of a rapid decline in demand, or their estimate of the success of the weavers in shifting to other types of cloth when a large part of the market for chuang cloth disappeared. The price and output figures seem to indicate that the price of chuang cloth was very closely controlled by the cloth gild, a control made possible by the complete monopoly of the export market.

One wonders what were the influences that, after there had been a steadily increasing demand for almost a quarter century, cut the demand for chuang cloth by 50 per cent in four years and by more than 75 per cent in six years. Competition from Japanese cloth or from machine woven cloth from Tientsin might be a possible explanation, but in view of rapidly rising world prices and demand due to World War I, it hardly seems to be a probable one. We do not know of changed conditions in North China that would explain it. The floods of 1917 and the drought of 1920–21 do not seem to have been large factors. Poor economic conditions in the northwest provinces were given by one of our reports as the reason for the decline about that time of the market for waist bands.

The chuang cloth was shipped from six centers. Chuan Lu and Ch'ing Feng Tien, the two market towns in the 6th District, handled over 73 per cent of the shipments. Twenty-three per cent went from the hsien city. The business was handled by 45 cloth stores in the six centers. One had a history of 150 years. Twenty-five were less than 10

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438 long, and made into bundles that weighed about four ounces each. A
258 man could make about 20 catties of noodles a day by hand.

Noodle making machines were introduced about 1920 and were used by some of the larger food shops. They were too expensive for home use as they cost $50 for a small machine and $70 for a large one. Their output was about 60 catties per worker per day.

Seventy-seven villages reported 165 families and 412 persons making noodles. The annual output was 573,300 catties worth 10 cents per catty. The reported gain was $27.85 per worker.

438 Another group of 351 families living in 94 villages had 1,206 members
258 who were making fine noodles or vermicelli from beans, kaoliang, and
435 sweet potatoes. Their output was 14,500 catties of bean noodles, 497,000 catties of kaoliang noodles, and 826,750 catties of sweet potato noodles, worth some $160,860. The prices of the noodles were bean 25 cents, kaoliang 15 cents, and sweet potato 10 cents per catty. The estimated gain was only 3.0 per cent, the gain per worker $4.20. This was the only home industry in which the gain was less than 10 per cent. Inquiry showed that the residuum of the noodle making process was used to feed pigs and that these families made most of their home industry gain from pork rather than from noodles. The vermicelli shops reported a profit rate of only 8 per cent.

258 In making bean noodles the beans, after being soaked in water until "bubbles came up from the bottom", were taken out and dried for two days, then ground in a small hand stone mill. The pulp was strained through a sieve into an earthen jar. Yin chiang and hsiao chiang, two kinds of sour paste made from green beans, were then added. The mixture was thoroughly stirred and allowed to settle. The "clean juice" was skimmed off the top and thrown away. The residue was strained again, mixed with more yin chiang and hsiao chiang and, after the "clean juice" had been removed a second time, was put into a cloth and hung up to dry. The white part of the bean flour was used for noodles, the black part was fed to the pigs.

Boiling water was added to the white bean flour to make a paste that was squeezed through small holes in the bottom of a dipper and dropped into a boiling kettle. When cooked the noodles were taken out, put into cold water, and then hung on a frame to dry. The noodles were generally bleached by adding alum to the flour paste. Kaoliang and sweet potato noodles were made by a similar process.

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285 manual skill. The reeds, most of which came from outside Ting Hsien, were prepared for weaving by splitting, removing the bark, soaking in water, and pressing under a mill stone until flat. In winter time the weaving was done in a cellar in order to keep the reeds moist and soft. In the summer it was often done out under the trees. It was a moderately prosperous industry, for the estimated gain was $58 per worker per year. About 10 per cent of the families made it their year round occupation. For the others it was part time work, for they, like so many of the home industry families, were busy with farm work during the growing season.

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TABLE 92. INDUSTRIAL SHOPS, FAMILIES, WORKERS, OUTPUT, PROFIT OR GAIN

		Workers		Output		Profit or Gain	
	Number	Total	Average	Total	Per Shop	Amount	% of Output
City shops	204	824	4.0	$ 730,910	$3,580	$ 216,150[3]	29.6
Village shops	1,578	7,506	4.8	2,975,480	1,880	285,290[3]	9.1
Home industry families	47,400[1]	90,429[2]	1.9	4,865,500	105	878,340[4]	18.0
	49,182[1]	98,759[2]		$8,571,890		$1,379,780	16.1

[1] Includes some duplication because of multiple industries and families and workers engaged in more than one industry.

[2] Males 25,077, females 73,682.

[3] After paying workers' wages.

[4] No wages paid workers.

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TABLE 94. INDUSTRIAL WAGES[1]

Per Day		*(Per Month, cont.)*	
Eye medicine	$0.40–1.00	Tailors	9.00
Sawyers	.50	Iron	7.00
Mat sheds	.45	Seal cutters	7.00
Per Month		Copper and tin	6.00
Leather:		Cart makers	5.00
Headman	30.00	Brick kiln	4.00
Trained worker	12.00	*Per Year*	
Graduate apprentice	10.00	Cotton ginning, laborers	60–70
Bookkeeper	10.00	Noodles	60
Foreman	5.00	Felt mats	40–50
Cook	4.00	Peanut oil	30–40
Laborer	3.50	Oil	30

[1] Tips and presents generally added about $20 per year for workers and $10 for apprentices. Cost of meals was about $4.50 per month.

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TABLE 95. INCREASE IN NUMBER OF FAMILIES AND FAMILIES WEAVING IN ONE VILLAGE, 1882–1932

Date	*Total Families*	*Families Weaving*	*Per Cent Weaving*
1882	155	90	58
1887	157	96	61
1892	158	110	70
1897	160	120	75
1902	162	125	77
1907	164	130	79
1912	165	130	79
1917	169	135	80
1922	172	140	81
1927	177	150	85
1932	180	154	86

TABLE 96. NUMBER AND KINDS OF LOOMS IN ONE VILLAGE, 1912–1932

Year	*Iron*	*Wood*		*Total*
		Improved	*Original*	
1912	–	20	260	280
1917	–	45	225	270
1922	15	72	168	255
1927	36	84	126	246
1932	69	122	48	239

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TABLE 97. WORKSHOPS IN CITY AND SUBURBS, 1931

	Shops	Workers	Output	Per Cent Gain
Cotton Ginning, Spinning, and Weaving				
Ginning	18	55	$ 70,890	9
Rope	5	17	5,490	15
	23	72	76,380	
Wool Spinning				
Rugs	1	7	2,590	20
	1	7	2,590	
Food				
Cakes and condiments	9	69	85,350	21
Condiments	1	4	1,470	16
Candy	4	14	2,370	12
Flour mill	31	84	61,980	9
Flour, green bean and noodles	6	22	8,280	10
——, green bean	2	4	1,610	15
Noodles	5	10	6,400	17
Oil, cotton seed and peanut	4	17	12,550	19
——, sesame	7	16	4,950	18
Vermicelli	5	19	18,800	8
	74	259	203,760	
Wood and Bamboo				
Bamboo implements	2	11	6,620	10
Bellows	1	1	200	20
Boxes and wardrobes	5	22	6,810	14
Carts	2	5	2,400	13
Furniture	4	13	4,160	14
Sedan chairs	3	9	2,780	16
Sieves and steamers	2	6	2,380	15
Timber yard	1	3	820	13
Umbrellas	1	4	2,590	11
	21	74	28,760	

(continued on next page)

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(TABLE 97 CONTINUED)

	Shops	Workers	Output	Per Cent Gain
Metal				
Blacksmith	2	7	3,900	18
Brass	3	6	1,450	38
Brass locks	1	3	1,100	[illegible]
Brass ornaments	1	1	480	39
Iron shop	5	17	2,040	21
Pewter	2	2	630	19
Tin	6	10	2,100	17
	20	46	11,700	
Chemical				
Cosmetics	1	2	4,800	7
Dyeing	9	41	10,110	21
Eye medicine	18	155	303,260	52
Paper	3	26	13,040	11
Soap, chicken fat	2	5	1,780	19
——, Chinese	2	2	250	32
——, foreign	2	6	2,890	16
Tanning	3	8	4,900	18
	40	245	341,110	
Miscellaneous				
Boxes, paper	2	7	1,300	25
Cigarettes	1	6	2,000	20
Flint	1	1	480	10
Heddles	1	1	120	28
Oil baskets	1	2	580	12
Oiled cloth	1	2	1,500	12
Pens	2	8	3,350	11
Shoes	14	86	51,400	12
Shoe parts	1	3	–	–
Uniforms	1	5	5,880	20
	25	121	66,610	
Total	204	824	730,910	
Average		4.0	3,590	
Average per worker			890	

Stores in city, 162; in suburbs, 42.

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(TABLE 98 CONTINUED)

	Shops	Workers	Output	Price[1]	Per Cent Gain
Miscellaneous					
Flint	1	5	700	.14	35
Hats	1	3	1,810		3[illegible]
Rope	5	15	1,410		31
Shoes	5	22	6,360		15
Stockings	4	16	14,400	.25[4]	16
	16	61	24,680		
Total	1,578	7,506[2]	2,975,480		
Average per shop		4.7	1,890		
Average per worker			400		

[1] Each, except as indicated.

[2] Females in four industries: flour mills 156, cotton ginning 144, oils 14, dyeing 3, total 317.

[3] Per catty.

[4] Per pair.

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TABLE 99. VILLAGE HOME INDUSTRY: COTTON SPINNING AND WEAVING

	Villages	Families	Males	Females	Output	Price[1]	Per Cent Gain
Cloth, export	203	13,385	7,029	32,092	$1,216,390	$1.20	17
——, big	378	–	–	–	1,090,630	1.80	–
Gauze, small[3]	1	2	2	–	1,280	1.00	13
——, large	–	–	–	–	400	2.50	–
Leg bands	3	45	66	67	15,310	.08	19
Rope	2	48	40	15	3,780	.25[2]	31
Sacks, grain	8	285	251	369	32,150	1.45	33
——, money, big	1	10	10	29	1,000	2.00	25
——, money, small	1	5	5	12	200	.20	25
Spinning	437	28,367	2,106	37,613	548,560	.57[2]	21
Waistbands	5	371	301	205	39,260	.40	38
		42,518	9,810	70,402	$2,948,960		

[1] Per piece except as indicated.

[2] Per catty.

[3] Items bracketed were made by the same family.

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Table 100. Village Home Industry: Hair, Reed, Straw, Twig, and Wool Weaving

	Villages	Families	Males	Females	Output	Price[1]	% Gain
Hair nets	1	1	–	4	$ 90	$0.02	50
Reed curtains	26	180	232	36	30,540	1.00	20
Reed mats	7	1,012	747	1,041	361,390	.70	29
Reed mat baskets	8	82	134	14	2,500	.15	47
Reed mat covers	9	106	186	4	7,490	.05	30
Straw hats	2	25	–	39	–	–	–
Straw pan covers	10	354	480	145	6,230	.25	60
Sage twig baskets	4	7	9	–	1,910	–[2]	31
Willow twig baskets	13	146	215	45	8,900	–[3]	–
Willow water baskets	12	466	654	232	54,280	.55	20
Willow winnowing and water baskets	2	165	220	10	–	–	–
Willow winnowing baskets	2	22	33	–	4,470	.50	14
Willow scoops	7	12	15	–	790	.07	42
Wool rugs	1	25	45	25	5,040	.80	25
Wool saddle quarter straps	–	5	10	5	1,010	.10	25
		2,608	2,980	1,600	$484,640		

[1] Each.

[2] Manure 10 cents, big 30, grain 80.

[3] Corn 10 cents, manure 20, cotton 30, big 40, open grain $1.00.

Table 101. Village Home Industry: Food

	Villages	Families	Males	Females	Output	Price[1]	Per Cent Gain
Bean curd	249	735	922	648	$162,610	$1.50[2]	20
Bean sauce	1	3	9	–	1,130	.09	22
Candy	2	7	22	–	3,110	.14	10
Noodles	77	165	353	59	57,330	.10	20
Vermicelli, sweet potato	94	351	1,099	107	82,680	.10	3
——, kaoliang					74,560	.15	
——, green bean					3,620	.25	
Sesame candy	4	12	25	–	6,250	.15	13
Sesame oil	51	68	100	42	12,960	.30	17
Vinegar	4	8	29	1	1,670	.04	25
Wine, date	2	2	15	–	3,500	.10	30
——, yellow	2	2	10	–	16,000	.15	27
		1,353	2,584	857	$425,420		

[1] Per catty, except as indicated.

[2] Per mould.

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TABLE 102. VILLAGE HOME INDUSTRY: WOOD AND BAMBOO

	Villages	Families	Males and Females	Output	Price[1]	Per Cent Gain
Bamboo rakes	1	1	1	$ 140	$ 0.10	–
Bellows	2	3	3	830	4.10	28
Benches, small	1	16	16	250	.05	20
Bread steamers[2]	1	1	3	400	1.10	30
Boxes	–	–	–	1,760	.05	–
Chairs	1	6	6	3,000	1.00	30
Ladles	2	64	90	9,690	.11	18
Looms	1	1	2	160	8.00	38
Pails	3	9	13	1,700	1.00	25
Peanut sieves	1	3	3	50	9.00	33
Pecks[2]	1	1	1	630	2.50	60
Pestles	–	–	–	6,600	.20	–
Pints	2	16	46	1,000	.05	–
Pitchforks	7	76	215	16,100	.50	27
Plows[2]	1	3	5	550	2.10	38
Poles	–	–	–	13,140	.20	–
——, carrying[2]	1	1	2	240	.80	25
——, spade handles	–	–	–	40	.20	28
Rolling pins	2	28	56	5,010	.10	40
Saddles	1	4	9	800	.25	40
Scales	2	2	5	440	–	33
Screens, for paper	2	2	2	150	1.25	68
——, for ko pai	1	1	1	50	.15	66
Seeders	1	1	2	150	3.00	16
Sieve hoops	1	1	3	–	. –	20
Spindles	–	50	70	900	.09	28
Spinning wheels	–	2	4	140	.50	20
Thread reels	–	10	20	2,000	.80	25
Toys[2]	1	10	26	320	.04	–
Toy bowls	–	–	–	240	.02	–
Toy incense cases	–	–	–	230	.03	–
Toy lantern bottoms	–	–	–	40	.01	–
Toy penholders	–	–	–	2,700	.03	–
Water wheel handles	1	1	4	800	.10	–
Weaving reeds	–	2	4	700	.35	14
Well windlasses	–	15	16	5,870	2.50	20
Winnowing machines	2	6	12	1,080	12.00	33
		336	640	$77,900		

[1] Each.

[2] Items bracketed were made by the same family.

TABLE 103. VILLAGE HOME INDUSTRY: METALS

	Villages	Families	Males	Output	Price[1]	Per Cent Gain
Corn removers	1	1	2	$ 140	$ 0.01	30
Horse shoes	1	1	3	680	.15[2]	27
Kettles	1	1	1	200	–	40
Lanterns	1	1	1	200	–	30
Locks	1	2	4	1,010	.10	10
Looms	1	1	2	500	28.00	27
Rakes	1	1	1	80	.40	25
Razors	1	1	3	480	.18	22
Vegetable cutters	1	3	6	410	.12	25
Wire lanterns	1	2	3	70	.15	66
Wire scoops[3]	1	12	25	21,800	.125	17
Wire horse muzzles	–	–	–	210	.07	–
Wire mouse traps	–	–	–	400	.04	–
		26	51	$26,770		

[1] Each, except as indicated. [2] Per set.
[3] Items bracketed were made by the same family.

TABLE 104. VILLAGE HOME INDUSTRY: CHEMICALS

	Villages	Families	Males	Females	Output	Price[1]	Per Cent Gain
Candles	2	4	21	–	$ 4,720	$0.18	44
Firecrackers	9	64	164	56	12,920		37
Glue	1	6	15	–	6,440	.33	15
Incense	2	19	75	30	9,370	.03[2]	17
Leather	3	3	12	–	4,860		19
Matches	1	7	9	5	280	.04	63
Paper, black	1	5	8	5	550	3.30[3]	38
——, ko pei	1	16	80	–	11,430	1.43[3]	11
——, straw[4]	2	13	55	–	2,560	.05	50
——, tinder	–	–	–	–	140	.41[3]	
Soap	9	28	32	9	3,360	.74	26
Toilet preparations[5]	1	1	6	–	1,800[4]	–[5]	57
Face powder	2	7	12	–	400	1.10	49
		173	489	105	$58,810		

[1] Per catty, except as indicated. [2] Per bundle. [3] Per 1,000 pieces.
[4] Items bracketed were made by the same family.
[5] Toilet preparations:

Cosmetics	$ 500	$0.10 per bottle	Cologne	200	.20 per bottle
Pomatum	450	.15 " "	Tooth powder	80	.02 " bag
Perfume cream	330	.07 " "	Total	$1,800	
Talc powder	240	.16 " box			

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TABLE 105. VILLAGE HOME INDUSTRY: MISCELLANEOUS

	Villages	Families	Males	Females	Output	Price[1]	Per Cent Gain
Bristles, pig	2	80	90	355	$760,000	$1.90[2]	13
Brooms	17	214	269	–	9,130	.10	30
Brushes	3	42	43	5	5,610	.02–.04	25
Heddles	3	18	43	12	1,970	.305	27
Horse collars	1	1	2	–	500	1.00	20
Rope, hemp	4	15	30	12	9,510	.33[2]	15
Sausage casings, pig[5]	1	15	30	15	43,200	.30[3]	17
——, sheep	–	–	–	–	12,000	.40[3]	–
Shoes	1	1	3	–	1,080	1.50[4]	27
		386	510	399	$843,000		

[1] Each, except as indicated.
[2] Per catty.
[3] Per piece.
[4] Per pair.
[5] Items bracketed were made by the same family.

TABLE 106. NUMBER OF DIFFERENT HOME INDUSTRIES IN VILLAGES

Industries	Villages	Per Cent	Industries	Villages	Per Cent
1	28	6.2	5	56	12.4
2	96	21.2	6	26	5.7
3	135	29.8	7	10	2.2
4	101	22.3	8	1	0.2
				453	100.0

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TABLE 107. CITY WORKSHOPS

Workers

Number	*Shops*	*Persons*	*Per Cent*
Under 5	148	381	72.5
5–9	44	262	21.6
10–14	10	111	4.9
15–19	–	–	–
20 and over	2	70	1.0
	204	824	100.0

Apprentices

Number	*Shops*	*Per Cent*	*Apprentices*
None	87	42.7	–
1	91	44.6	91
2	16	7.8	32
3	7	3.4	21
4	2	1.0	8
10	1	0.5	10
	204	100.0	162

Invested Capital

Amount	*Shops*	*Per Cent*
Under $100	22	10.8
100–199	44	21.5
200–299	40	19.6
300–399	39	19.1
400–499	21	10.3
500–599	12	5.9
600–999	10	4.9
1,000–1,999	11	5.4
2,000 and over	5	2.5
	204	100.0

Minimum	$30	Average	$380
Maximum	$5,500	Capital per worker	$95
Total	$77,160		

(continued on next page)

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(TABLE 107 CONTINUED)

Value of Goods Produced

Amount	*Shops*	*Per Cent*
Under $1,000	68	33.5
1,000–1,999	59	29.0
2,000–2,999	34	16.8
3,000–3,999	8	3.9
4,000–4,999	7	3.4
5,000–5,999	7	3.4
6,000–9,999	10	5.0
10,000–14,999	2	1.0
15,000–24,999	4	2.0
25,000–49,999	2	1.0
50,000 and over	2	1.0
	203[1]	100.0

Total $730,910.

[1] One shop omitted. Makes shoes for shoe store from material supplied by store. Income represents value of work done rather than of goods produced.

Annual Profit

Amount	*Shops*	*Per Cent*
Under $200	109	53.7
200–399	46	22.7
400–599	19	9.3
600–799	1	0.5
800–999	3	1.5
1,000–1,499	9	4.4
1,500–2,499	7	3.4
2,500–4,999	6	3.0
10,000 and over	3	1.5
	203	100.0

Total $216,150.

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TABLE 109. EXPORT CLOTH: RETAIL PRICE, MAXIMUM GILD PRICE, AND EXPORTS, 1892–1931

Year	Average Price[1]		Maximum Price		Pieces Exported
	Copper	Silver	Copper	Silver	(000)
1892	700	$0.62	750	$0.66	600
1893		.66		.70	650
1894		.68		.73	740
1895		.71		.76	820
1896		.75		.81	830
1897		.79		.85	840
1898		.89		.96	920
1899		.88		.95	940
1900		.86		.92	850
1901		.83		.89	890
1902		.90		.97	950
1903	750	.93	800	.99	980
1904		.95		1.01	1,100
1905		.99		1.06	1,200
1906		.91		.97	1,250
1907		.84		.90	1,350
1908		.80		.85	1,450
1909	800	.76	850	.81	1,800
1910		.76		.81	2,000
1911	850	.82	900	.87	2,600
1912	950	.86	1,000	.91	2,900
1913		.79		.83	3,000
1914		.77		.81	3,500
1915	1,100	.80	1,200	.87	4,000
1916		.80		.87	3,400
1917		.91		.99	3,200
1918	1,200	.87	1,300	.94	2,500
1919		.85		.92	2,000
1920	1,400	.96	1,500	1.02	1,200
1921		.89		.95	950
1922		.83		.88	1,098
1923	1,974	1.00		1.20	1,080
1924	2,317	1.00		1.20	1,100
1925	2,896	1.00		1.20	1,172
1926	3,895	1.10		1.30	1,055
1927	4,125	1.10		1.42	810
1928	4,827	1.15		1.42	1,004
1929	4,959	1.15		1.42	1,121
1930	4,908	1.20		1.42	1,220
1931	4,908	1.20		1.42	–
					59,062

[1] Market prices were quoted in copper from 1892 through 1922, in silver thereafter.

[p. 326]

4: Burgess E-4,5 (1926-1927) 1928 AF12 North China AF12

raised by the guilds when the prices of food rise or when money values fall. He shows that there is a very definite customary standard of living on the one hand for the unskilled laborers, and on the other, for the skilled artisans. The masters of the shops and stores recognize this standard and are quick to grant the needed increase whenever circumstances warrant. Custom rather than definite guild action largely determines wages in these guilds. The same is true, perhaps to a lesser degree, in relation to prices. No detailed study has been made of the prices of most of the products made or sold by the Peking guildsmen, but here also custom is probably a determining factor in establishing what is practically a guild rate for certain products.

The only evidence that we can find of any direct effort on the part of Peking guilds to standardize products is the attempt of the Rug Guild to set a definite price for rugs with a definite number of threads to the inch. This attempt failed because a poor quality of wool was introduced into the rugs of many of the merchants.[1] There is, however, evidence of guild control of weights and measures.[2] When a new store is organized for the sale of dyes, after the dues are paid, the guild presents the new store with a set of standard scales.

It is possible that in the earlier days there was more of an effort to standardize the goods made or sold. However, here also custom plays a very powerful rôle. In Pao Ting Fu, a large city south of Peking, certain definite types of brass teapots are made. There were only three or four very carefully fixed patterns. Other kinds of teapots simply were not made. Not until an enterprising foreigner drew other designs could these merchants be induced to produce anything but the fixed standard makes. Uniformity of design and process is also characteristic of many other crafts.

[1] Chu and Blaisdell, *op. cit.*, p. 17.

[2] *Cf.* pp. 197-198.

4: Burgess E-4, 5 (1926-1927) 1928 AF12 North China AF12

Other considerations tend to stabilize prices and wages and the quality of goods even when there are no fixed guild rules regarding them. Any one who has stood in a Chinese market where craft-made goods of many sorts are sold and has watched the Chinese buyer does not need to be convinced that the customer is a shrewd judge of the quality of the product. Acquainted with the limited number of fixed styles, patterns, and qualities in which the goods are produced, the buyer is competent to judge the quality of the goods. Whether he wishes to buy silk, cloth or brass, hats or shoes, he knows quite well the characteristics of the product. The numerous guild regulations against the stealing of customers [1] make shopmen very canny about any change of price which would tend to draw customers from other shops. What is perhaps even more important than any of these considerations is the personal relations of the guildsmen. Many of the stores and shops of similar character are located in one geographical section. Every one has a check on every one else and all are personally acquainted. Any move to lower wages or prices which would tend to put a fellow guildsman at a disadvantage is discerned at once and reflected in the attitude of the rest of the group.

These considerations, however, are not a substitute for strict supervision of the quality of guild products, such as is described by Morse and Macgowan as existing in other parts of China. Although we have no comparative data covering a period of years on the regulation of wages, prices and standards of products, it is our opinion that the present lack of definiteness on these subjects is probably one more sign of the failing authority of the guild, owing to changed political and economic conditions. Certainly it is true that according to the reports of Macgowan, Morse and Williams, it is the rule, rather than the exception, for guilds in Central

[1] *Cf.* p. 198.

4: Burgess E-4.5 (1926-1927) 1928 AF12 North China AF12

and Southern China to fix prices and wages and to standardize goods.

B. Guild Regulations

We are greatly indebted, especially to Macgowan, for the translation of the printed regulations of a great variety of guilds. Gamble has supplemented this material by the very detailed regulations of the Barbers Guild of Peking. A study of these documents shows the great variety of regulations in almost every feature of guild life, for in each case the rules are adapted to the demands of the particular craft or trade.

Macgowen gives in great detail the rules adopted in 1876 by the Wenchow Silk Weavers Union. These rules were a revision of the original rules adopted in 1842 which had fallen into disuse. A summarization of a few of the regulations follows.

Journeymen.—"A hand who is employed by one manufacturer shall not surreptitiously work for another; the penalty for transgressing is a theatrical performance and a feast for ten." The fine for stealing silk from employers is expulsion from the trade. The purchaser of such stolen goods is fined a play and a feast for over ten. "No employer shall engage a journeyman if that hand is in debt to his master." At the beginning of the new year workmen are at liberty to make engagements with other manufacturers if their debts are paid. At the beginning of each year the master shall advance to the journeyman from two to four months' wages. No more wages shall be paid until this sum is worked off.

Apprentices. — The apprentice must give a feast to the guildsmen of the establishment when he starts his work. The apprenticeship lasts for five years, during the last two of which the worker must serve his master as journeyman.

4: Burgess E-4, 5 (1926-1927) 1928 AF12 North China AF12

*441 *467 are numerous "taels" used in accounting and the making of payments. These taels all have a different exchange rate when converted into dollars. Trouble over the question of which tael should be used was one of the chief reasons for the establishment of the Peking Fur Gild.[1]

*441 *467 305 [435] The minute regulations of the Peking Barbers Guild give insight into the great care taken to restrict competition and to give to all members an equal chance to have their just share of business.[2] The regulations prescribe that if the regular customer of one shop goes to another shop, an additional charge of ten per cent above the regular guild rate for a haircut or shave must be made. Very strict prohibitions are made against inducing customers to leave one store and come to another. "If an apprentice, who has not graduated according to the terms of his apprenticeship, gives up his work, without good reason, the gild will pay back to his master the cost of his room and board."[3] A storekeeper who has trouble with his workers or apprentices must bring the matter to the guild court before taking it to the public officials.

If an apprentice of one of our shops goes to another of our shops without his teacher's consent, the gild must be informed so that it may send the apprentice back to his master. If, however, the shopkeeper employs the apprentice without telling the gild, he shall be severely fined.

If a member of our gild organizes a new shop, either with his own capital or the capital of some proprietor, he must state to the gild the location of the shop and have it registered in the gild. He must pay to the gild one tael for incense expenses.[4]

[1] Gamble and Burgess, *op. cit.*, pp. 191-1.

[2] *Ibid.*, pp. 431-8.

[3] *Ibid.*, p. 434.

[4] Gamble and Burgess, *op. cit.*, p. 435.

5: Tao E-5 (1926-1927) 1928 AF12 North China AF12

511 commodities, the remuneration of services, personal or otherwise, or the presents and gifts to friends or relatives. Other disbursements, such as sums expended for redeeming pawned articles, paying debts or loan society subscriptions or lending loans to others, are all excluded from this definition.

Meals offered by relatives or friends are considered as income on the one hand and expenditure on the other, so also are those provided by employers. Both have been calculated and recorded after careful inquiry.

FOOD PRICES

435 437 One difficulty encountered by us in the study of consumption has been to find out its quantity. Purchases of food and other articles among the Chinese families are frequently made, not in terms of quantity, but at so much money's worth. The housewife, for instance, when making purchases, would say that she wants twenty coppers of sugar and ten coppers of tea of a certain brand. As a rule, the grocer has always ready in hand the articles in packages of a definite value. On receiving the order, he would at once throw on the counter four packages of sugar and five packages of tea. It is evident that the size of the package is determined by the price of the article per catty and varies with the prices. But as the purchases are generally made in small quantities, the weight is but seldom referred to. This is particularly true of the poor families which have to buy their articles of food at every meal.

Such being the case, there appear, therefore, in many items in our accounts only figures for the sums expended but not the quantities purchased. For this purpose, the investigators were instructed to report at frequent intervals the retail prices of the market for a great number of commodities and their monthly average prices were used to determine the quantities of articles bought by various families. For those commodities whose prices fluctuated but slightly during the six months of investigation, the general average of that whole period was used.

5: Tao E-5 (1926-1927) 1928 AF12 North China AF12

There were, besides, certain commodities which are always sold in pieces of a definite size. In determining their quantity they were weighed. In this way the quantity of various purchases was worked out.

THE ADULT EQUIVALENT

For a study of consumption, families of different sizes have to be reduced to terms of a uniform unit. Many scales have been made use of for this purpose, but in studying the consumption of the Chinese population, it is preferable to work out a new scale of equivalent adults by means of either medical or economic research into the physiological needs of the average Chinese. Such a scale is, however, still wanting, and for our present purpose, Atwater's scale which was based solely on food consumption has been adopted. The scale is as follows:

	Male	*Female*
Under 2 years	30	30
2 and under 6	40	40
6 „ „ 10	50	50
10 „ „ 12	60	60
12 „ „ 13	70	60
13 „ „ 15	80	70
15 „ „ 17	90	80
17 and over	100	80

In the forty-eight working families, there were altogether 220 persons. Reduced according to the above scale, they were 162.1 equivalent adults. It has been further worked out that of these equivalent adults, 131.77 had taken meals at home while 30.33 had their meals outside.

It should be noted that as Atwater's scale is based on dietary studies, it can hardly be considered a satisfactory one to measure the consumption of commodities other than food. However, liberty has been taken in our study to use the scale throughout, as adequate scales based on all groups of expenditure have yet to be worked out in this country.

7: Gamble S-5 (1926-1927) 1933 AF12 North China AF12

125 been able to secure a relatively complete and accurate report on other items, especially the impersonal ones included under food, heat, clothing and rent.

In order to offset some, at least, of the possible omissions, the accounts have been balanced by adding a "surplus" item to the expense side when there was unexpended current income; and "deficit" has been added to the income side when the family spent for current expenses more than their reported income.

Besides the addition of surplus and deficit, the following changes were made in the accounts after they had been transcribed, but before they were totaled, or any percentages were figured. Any reported business expense was deleted from the expenditure side and, if made from current income, was deducted from the reported income. As this is a study of the families' current accounts, when capital income was used for a capital expense, the amounts have been omitted from the totals. If rent did not appear on the expense side of the account—that is, if a family owned their home, lived in a house given them rent-free, or made enough profit from subletting rooms at an advanced rent to give them their quarters partly, or entirely, rent-free—the rent value of the property occupied rent-free has been added to both sides of the account. In this way, it has been possible to give rent its proper weight in the family expenses and secure the complete figures for other housing items.

128 435 Some people have questioned the making of a budget study in Peiping in 1926 on the basis that times were abnormal, that there was revolution and civil war in China, and that there had been fighting around the city in the spring of 1926 when Feng Yu-hsiang had been driven

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out of the city by Chang Tso-lin. However, the city was at peace during the entire time of the study; and while many foreigners, fearing a possible Communist uprising, hurriedly left during the spring of 1927, the ordinary Chinese family was not seriously affected by the tension of those days. Furthermore, a previous study showed that prices in Peiping were little influenced by political events unless communications were interrupted, and that they quickly returned to normal as soon as the roads were opened.[3] The price level had been rising, until in 1927 the prices of pork and mutton were 57 and 87 per cent higher than the 1924 averages, and the 1924-1927 increase for salt was 66 per cent, oils 35 per cent, coalballs 38 per cent, flours between 15 and 20 per cent, but, during the time the field-work of this study was being carried on, prices remained relatively stable. The combined index number for food, clothing and fuel ranged from 97.8 to 102.5 with the high point in December and the low point in October.[4]

One special reason for making the study in 1926 was that it was evident a change of some sort was coming in China, both in the political and the economic fields. Trade-unions were being organized in many cities and were increasing wages, prices had been going up, and there were many groups opposed to the Peiching (Peking) government. A study of family budgets made at that time would anticipate the coming change, would give a picture of conditions in a large non-industrial city before the change should take place, and would provide a point of departure for measuring the changes and development of the new régime. Less than a year after the field-work

[3] No. 18, Bibliography. [4] Nos. 11 and 18.

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counted as a member of the family, even though regularly contributing to its support. In figuring the number of cost consumption units in a family, proper allowance has been made for the absence of any of those counted as members of the family.

The *Graphs*, except on the charts giving monthly expenditure, show the general trend rather than the figures for the individual income groups. The curves have been drawn first through the points given by a three-point moving average, have been extended to the $5 and $300 group amounts, and then have been smoothed. Monthly expenditure graphs are unsmoothed. Proper allowance has been made in the charts for the differences in the range of the income groups.

Hopei is the present name of the province in which Peiping is located. Prior to 1928 it was known as Chihli Province.

An *Income Group* includes all the families whose incomes lie between certain limits. The families have been grouped on the basis of their average monthly income, rather than their annual income. Differences of $5 and $10 a month have been used, rather than $50 and $100 a year.

Month refers to the Western calendar month, except when ordinal numbers are used, as First Month, Second Month. The latter refer to the months of the Chinese lunar calendar.

Peiping, North Peace, is the present name given to the city formerly called by the Chinese, Peiching, North Capital, and by the foreigners, Peking. The name was changed in 1928. Although the old names were still in use when this study was made, the new name has been adopted for this report.

The *Percentages* given in the tables ordinarily are the averages of the percentages of the individual families in each income group. They differ somewhat from those figured on the basis of the average amount received or spent by all the families in the income group, but the difference is not large.

A *Picul* is 100 catties, 133 pounds.

The *Prices* of commodities have been secured from the *Chinese Economic Journal*,[7] from *Livelihood in Peking*[8] and by personal visits to the stores.

[7] No. 11. [8] No. 39.

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celebration, make November the month of maximum expenditure. 511x

The price of plain cotton cloth and clothing will give some idea of what the families can buy with per capita expenditures of $3 and $4 a year. The approximate original cost of the clothing worn by families with incomes of less than $31 a month was: man's unlined suit, coat and trousers, $1.85; padded suit, $3.20; unlined gown, $2.40; padded gown, $5; shoes, 70 cents a pair; cotton socks, 25 cents; knitted socks, 30 cents a pair; bedding, mattress, quilt and pillow, $6.20.[8] For women, the prices would be about the same, except that a woman's unlined suit would cost some 25 cents more than a man's. Ordinarily women do not wear long gowns, but suit coats of intermediate length which require more cloth than men's shirts. The poorest grade of blue drilling averaged 5.4 cents, and the better grades from 11 to 12 cents per Chinese foot, 0.32 meter. Coarse cotton for padding winter suits and bedding cost 47 cents a catty, the finer grades 56.8 cents a catty, and cotton thread 10.4 cents an ounce.[9] 511x 435

An inventory, made in April 1927, of the property of 48 families, gave the average estimated value of the clothing and bedding as $23.75 per family, or $5.65 per capita, for the families with incomes between $11.85 and $18.30 per month; $39 per family, $7.30 per capita, for those with incomes from $18.30 to $25 per month; and $12.80 per capita for those with incomes over $25 a month.[8] If these figures are typical for the families in our lower income groups, their per capita expenditure for clothing would amount to some 45 per cent of the present value of their clothing; 37 per cent of the pres- 511x

[8] No. 39. [9] No. 11.

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bars near the bottom and a small opening in the flat top. Often they are made of baked clay, or metal lined with clay. A five-gallon kerosene tin lined with clay is a popular type of stove with the poorer families. When the coalballs are first ignited, there is considerable gas and smoke, but when well heated they make a clear, hot fire, are usually odorless, and give off little gas and no smoke. Consequently many of the stoves are not connected with any chimney, or flue. Many of them are small enough to be easily portable, and ordinarily are carried out-of-doors when a fresh fire must be made. When fresh fuel is added, a long metal chimney is put on top of the stove for a short time to furnish the necessary extra draft. Food is cooked in a metal dish set over the small round opening in the top of the stove.

During the budget year, the price of coalballs averaged $6.90 per 1,000 catties, or $10.35 a ton. The monthly averages ranged from $7.07 in June to $6.32 in October. In May 1928, six months after the close of our study, the price was down to $5.60 per 1,000 catties. It was $6.10 in January, 1929, and this was the average for that year.[6] In 1931 the price was $4.50 per 1,000 catties. In 1900 the average price was $5.08. Ten years later it was $4.97, but then there was a steady decline until in 1917 it was only $3.43 per 1,000 catties. By 1924 the price was again up to $4.99.[7] Extra taxes, the difficulties of the railroads, the disturbed political conditions, all are reflected in the high prices of 1927.

Before 1926, the prices are taken from the account books of a single store. After 1927, they are based on quotations secured from six different stores. Their prices

[6] No. 11. [7] No. 30.

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regularly showed considerable differences. The difference between the highest and the lowest quotations averaged 40 cents per 1,000 catties for 1927, and 93 cents for 1929.[8] This price spread may have been due to a difference in the quality of coal used, but more probably was the result of mixing more or less earth with a given amount of coal dust. In some stores, the price of coal dust and coalballs was virtually the same. The profit made by selling yellow earth at the price of coal dust evidently covered the cost of making the coalballs.

All but three families reported the purchase of coalballs. These three secured their entire fuel supply by sending the children to pick over the ash dumps for half-burned fuel, or to the railroad yards to look for coal along the tracks. Fifteen families reported that they secured part of their fuel supply in this way. Ordinarily it was the children who went out to pick up fuel, but in three families it was the mother, and in one the seventy-year-old grandmother. The value of the fuel the families were able to find has not been taken into account in our averages.

The average amount spent for coalballs per year was $9.98 for the $5 group; $22.15 for the $30 group; $44.35 for the $90 group; and $66 for the $300 group. The amount used per family varied from 1,450 catties, 1,930 pounds, for the $5 group, to 9,550 catties, 6.5 tons, for the $300 group. It was 2,730 catties, 1.8 tons, for the $25 group; and 4,030 catties, 2.7 tons, for the $50 group. (Figure 20 and Tables 31 and 32.)

Coal and coalballs together totaled 1,600 catties, 1.1 tons, per family per year for the $5 group. This was less than six pounds a day. The $25 group used almost twice

[8] No. 11.

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August, and 15.8 cents in September.[14] This increase of 70 per cent in five months was due largely to the decline in the gold value of silver.

Electric current is available throughout a large part of Peiping, and all the principal thoroughfares are electrically lighted. For residential use, the ordinary charge is 24 cents a kilowatt hour. Forty-eight families reported some expenditure for electricity, but an examination of the accounts shows that 16 of these can hardly be considered regular users of electricity. All 16 reported expenditure for less than four months, and for only a small total. For some it was only 10, 20, or 30 cents. For only four of the 16, was the total for the year over $2. If these 16 are omitted, the number of regular users of electricity is 32. This is 11 per cent of the entire group, and 32 per cent of the families with incomes of more than $40 a month. The first regular users are in the $40 group. Their average expenditure was $14.20 a year, or $1.20 a month. The average was more than $2 a month for the families with incomes of more than $60 a month. It was over $3 a month only for the $300 group. Then it was $4.70 a month. One family was charged $22 for a new meter, another spent $35 for an electric lamp.

The amount of current used was seven kilowatt hours per month by the families in the $40 group; 12 by the $80 group; 15 by the $200 group; and 20 by the $300 group. A group of American working-class families in Peoria, Illinois, used an average of 24.9 kilowatt hours per month.[15] If a family needs, on the average, three hours of artificial light per day, the $40 group would have an average of two 40-watt bulbs to light a 2.6-*chien*

[14] No. 11. [15] No. 43.

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WATER

"Peiping's running water runs around in carts," is a local saying, as the water supply of most families is brought to their gates in large wooden wheelbarrows and is then carried into the houses in buckets. Water under pressure is available from the mains of the Peiping Water Company in a large part of the city, but the cost of plumbing puts it beyond the reach of the poorer families. The distribution of water is evidently a monopoly firmly held by the water carriers' gild, most of whom were originally natives of Shantung province. It is reported that the gild has a membership of some 2,500 men. In many cases, the privilege of supplying water to the people of a given district is the property of one man. He can lease or sell the privilege and even leave it to his children.[17] One of the families included in our study received $17 a month for the rent of a water district.

Most of the water is drawn from surface wells, though some of the carriers get their supply from the hydrants of the water company. The retail price of water was 1 cent for two bucketfuls, but many of the regular users contracted for their supply on a monthly basis. The amount delivered to some families paying 15 cents a month was approximately 420 liters per month.[18] For many of our families, the price of water was fixed in terms of copper, rather than silver. There were regular monthly payments of 30, 50, 60, 70, 75, 90, 120, and 180 coppers. Other families, if they paid a regular monthly minimum, must have purchased varying additional

[17] No. 17. [18] No. 39.

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435 amounts, as there was considerable fluctuation in the monthly totals.

*511 The accounts of 29 families showed no expenditure for
312 water. Twenty of these were living outside the city walls. They drew their water from the public well and carried it themselves. For two families, water was included in the rent; one owned a well; and one drew its supply from water paid for by friends or relatives. All but five of the families reporting no expenditure for water were receiving less than $25 a month.

*511 The average expenditure per family for the different income groups increased regularly from 7 cents a month, 82 cents a year, to $1.30 a month, or $15.85 a year. Only 23 families reported the expenditure of $1 or more a month. The maximum was $33 for the year. Some months the expenditure of that family for water ran as high as $4. From the figures in Table 31, it seems evident that the average expenditure for water is less than $2.50 a year when the family income is less than $25 a month. It is over $4 for families with more than $40 a month; between $6 and $8 for the families whose incomes are between $60 and $125 a month; and over $10 a year for families with incomes of more than $125 a month.

For more than half the income groups, the expenditure for water was between 7.1 and 9 per cent of the expenditure for heat, light, and water. It varied from 1 per cent to one-third of 1 per cent of the total family expenditure, the proportion fluctuating somewhat, but generally decreasing as the family income increased.

The monthly averages of the different income groups show a slight seasonal variation in the expenditure for water. Virtually all are below the average for the first